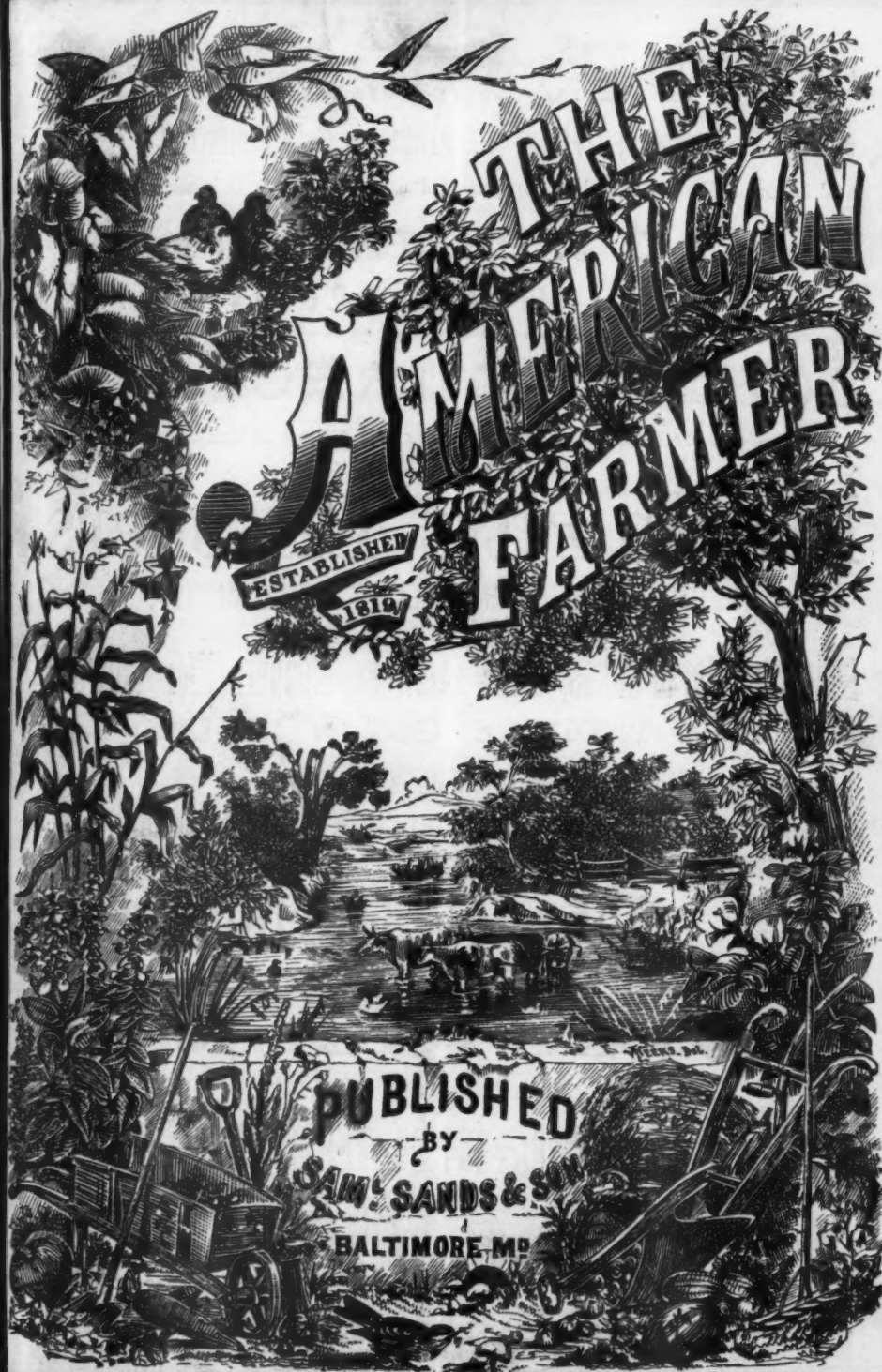


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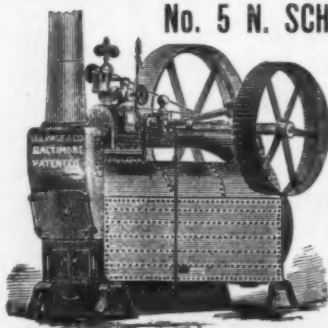
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THE AMERICAN FARMER.

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." Virg.

PUBLISHED BY SAM'L. SANDS & SON, BALTIMORE, MD.

VOL. VI.—No. 6.]

JUNE, 1877.

[NEW SERIES.

On the Action of Plaster (or Sulphate of Lime) and Salt.

Messrs. Editors *American Farmer* :

Among the first things used on my land was plaster on clover. A plat was laid off and a heavy dressing was applied without the slightest effect, and it has been tried on every field on the place with like results; yet on some lands the result is wonderful. Is there any rational theory for such different results? The query is, whether plaster is plant food or merely an agent to bring into activity some latent, inactive element? The latter idea seems a reasonable one, and where it fails it must be conclusive that those elements which are brought into play by its application are absent from the soil; provided the above theory is a correct one, and, if it is, what can those elements be that are acted upon by the application? Speculation, based upon solid experiments, has a good starting point, and I propose stating some of them. Numerous experiments have been made in Europe by scientific men with plaster, which has confirmed them that the happy effects produced by its application are neither owing to the sulphuric acid or to the lime present in the salt. Hence, the conclusion is, that it is owing to the chemical action in some other mineral matter. To prove this, samples of different soils have been treated with a solution of plaster, and it has been clearly proven that the insoluble, and, consequently, the inactive but necessary plant food was rendered available, as will be seen by the following table:

	Magnesia soluble in pure water.	Magnesia soluble in plaster water.
Soil No. 1.....	30	70
" " 2.....	31	87
" " 3.....	12	84
" " 4.....	45	168
" " 5.....	26	101
" " 6.....	38	98
" " 7.....	8	63
" from cotton field of Alabama....	1	3

Sulphate of magnesia being found in the solution, proves that the sulphuric acid, having a stronger affection for the magnesia earth than for lime, leaves the latter, uniting with the magnesia, forming a soluble salt, which is at once in condi-

tion for the young roots to take up and duly appropriate in the development of the plant. Like results have been obtained from potash combinations.

This seems to indicate that plaster acts as an agent rather than as direct plant food, and will account for its utter failure in many soils where applied, and, in a measure, proves the cause of the failure, especially in soils needing magnesia, which seems to be a very important element for plants. Analysis of some of the richest soils from Western valleys proves them to possess double the quantity of magnesia over both phosphates and potassa; and I would suggest that some farmers try the experiment with magnesia, as it will cost but little. Baltimore county marble dust, sold in barrels, for making carbonic acid, is a convenient way of applying it. This, followed by an application of plaster, might prove just the thing needed. I am most thoroughly convinced that bone, potassa, lime and ammonia will not do *everything* for the land.

Salt seems to be coming in favor, and I notice some writers speak very highly of it. May not its action be similar to plaster? The chlorine, leaving the soda, unites with some mineral elements, and thereby rendering them soluble, as nearly all chlorides are very soluble. It may not be out of place to state one experiment made with it. I suggested some years ago to a well-known and deservedly popular chemist of our city the use of chlorides, and he remarked, "Chlorides are poisonous to plants," and, accepting it as true, concluded to purchase a few bushels of the poison to kill the grass, &c., growing in my asparagus bed. For years no attention had been bestowed on it, and the grass, weeds, &c., seemed to struggle for the mastery, the asparagus generally succeeding, and early in summer covering the bed (about one-eighth of an acre) with its foliage after cutting time. Instead of killing the weeds, clover, &c., they now have full possession, running out the asparagus, and affording an abundant crop of weeds, red-top, clover, orchard grass, &c., which is mowed several times during the season for the hog pen, affording some food, good bedding, and a pile of manure.

I am quite certain for the past twenty years, positively certain for the past twelve years, that not a shovelful of manure or a pound of any other fertilizer has been applied to the bed. If such

cheap materials as plaster, magnesia, marble dust and salt will improve our lands, proper experiments should be undertaken by farmers; and it would be one of the important subjects to be investigated by our agricultural station.

Baltimore, May, 1877.

A. P. SHARP.

Agricultural Experimental Stations.

Messrs. Editors American Farmer:

I think that you rightly devote space in the *American Farmer* to the subject of an Experimental Station in your State. It is a matter of surprise that our agricultural papers do not all devote space to their advocacy,—their usefulness and great saving to the farmer having been tested and proved not only in Germany, but also at last in one of the least of our Northeastern States. If we ever, as farmers, expect or wish to derive full advantage from our endowed agricultural colleges and departments it must come through some such channel, for the apportionment to many States was small and went to some existing educational establishment endowing a "chair," more in name than in any reality so far as was the original intent, and a very numerous class are much disgusted or dissatisfied with the whole management. Now, to counteract this undue disaffection, we must have the intervention of some such institution as here advocated, where farmers can see and realize that science is an aid to them individually and collectively; that a scientific education and agriculture puts money in their pockets, or rather saves it there when once in.

You very rightly say: "The State could well afford to appropriate the very moderate sum which would be required to provide and equip such an institution, and the expense of its maintenance would be insignificant as compared to the public aid afforded to almost every other except the agricultural interest." Farm property pays larger proportional taxes than any other interest, and should, by rights, receive equal protection and advantages awarded to any other of minor importance; but the fact remains that it is almost the last to receive aid and protection from government. Very likely it is mainly owing to the fact that farmers as a class are less persistent than other professions, trades, etc.

The saving to farmers in Connecticut, from their experiment station during the year past, will, it is estimated, more than pay the amount appropriated as annual expenses from the State treasury for twenty years, and this is only one year's experience. Farmers not only gain by it, but all other classes as well; therefore it is to the public interest that farmers in all the States be alike protected and aided. Here it should be borne in mind that the saving is mainly from the single item of fertilizers alone; when we come to devote a like attention to other items the advance will act proportionally advantageously.

Worcester Co., Mass.

W. H. WHITE.

The Connecticut Experiment Station will be removed from Middletown, its present site, to New Haven, where Prof. Johnson (the Director of the institution) resides, and where there are greater facilities for the prosecution of its investigations.

Something More about Manures— Chemical and Domestic.

Messrs. Editors American Farmer:

There is a wonderful analogy existing between animal life and plant life. The animal is a living, growing organism, having its allotted term of existence, then dying and returning to mother earth from whence it sprang. The plant is a living, growing organism, also running out its brief existence, and finding the same destination in mother earth.

The animal has its organs of respiration, by which the vital forces are kept at work and the spark of life kept alive. The lungs are the organs of respiration in the animal. The plant, too, has its organs of respiration in its leaves and foliage, which perform for the plant the same functions that the lungs do for the animal. The animal has its circulation in the blood, whilst the plant has the same in the sap. The animal takes in its food, which is digested and taken up and incorporated with the blood, and by a force furnished by the action of the heart is distributed out to all the organs of the body, each receiving the kind of food necessary to build it up. In the plant the same vital process exists. When animals take their food into their stomach, all that is soluble and digestible of it is taken up and becomes a constituent of the blood, whilst the insoluble parts are carried out of the system in the dung or excrement. The same thing happens to the plant. It assimilates all the soluble constituents of its food and throws off all that is not. The animal, whilst young, feeds upon the food which it gets from its mother. Just so the young plant draws its substance from the seed until it gets old and strong enough to feed upon the contents of the soil and the atmosphere. In the animal kingdom there is a male and female, and the office of reproduction is carried on by the reunion of the two. There are male and female plants, also, and the organs and offices of reproduction are identically the same in the two. But there is one particular, however, in which the vital processes are different. In the act of respiration the animal inhales or takes in oxygen, and exhales or throws out carbonic acid. In the plant this process is reversed. The plant inhales or takes in carbonic acid, and exhales or throws out oxygen. In this divergence of the two is found one of the most wonderful provisions of nature. Carbonic acid, although one of the most indispensable elements of animal as well as plant food, is nevertheless a poison when taken in large quantities. Neither animal nor plant life can exist in an atmosphere containing 12 per cent. of carbonic acid.

The atmosphere is the main source of carbonic acid, and the atmosphere contains sufficient supplies of it to meet all the wants of vegetation, but the stock of carbonic acid in the atmosphere is being constantly augmented by combustion, respiration and the decay of animal and vegetable substances. If, then, augmentary processes were allowed to go on without any neutralizing ones to counterbalance them, there would be such an accumulation of carbonic acid in the atmosphere that neither animal or vegetable life could be supported. And at the same time the supply of oxygen would be diminished in the same pro-

portion—because carbonic acid is formed by the chemical union of carbon and oxygen, and vast quantities of oxygen are taken from the atmosphere to form carbonic acid; and hence, also, if there were no counterbalancing forces to restore to the atmosphere the oxygen thus abstracted, the supply in the atmosphere would become insufficient to support respiration. Vegetation takes up vast quantities of carbonic acid from the atmosphere and thus prevents its accumulation. When thus taken up by vegetation it is decomposed by the light and heat of the sun, and its carbon and oxygen separated—the carbon entering into the growth of the plant, whilst the oxygen is set free, and goes back into the atmosphere. In this way a perfect equilibrium between the two elements is maintained. In other words, a normal supply of oxygen is kept up, and an excess of carbonic acid prevented. Were the offices of respiration carried on in the same way in the animal and vegetable kingdoms, the tendency would be to a constant increase of carbonic acid in the atmosphere, with a corresponding decrease of oxygen.

Oxygen constitutes one-fifth of the bulk of the atmosphere. It is the supporter of respiration, and neither animal or plant life can exist without it,—and hence the necessity of keeping up the normal supply in the atmosphere, which never varies from one-fifth of its bulk.

Moreover, there exists between the animal and the plant the most intimate connexion, and a mutual dependence. The plant is dependent upon the animal for its care, preservation and cultivation, whilst the animal is dependent upon the plant for food and raiment. The animal requires for its life and growth certain crude elements existing in the soil and atmosphere. The plant furnishes the only means by which these are to be obtained. The plant goes out, as it were, in search of these elements, gathers them together, elaborates them, and furnishes them to the animal in a condition to be assimilated. According to Liebig, every part and constituent of the body is obtained from plants,—and Prof. Johnson says: That it is in all cases the plant which originally constructs these substances and places them at the disposal of the animal. Manures are simply plant food. Plants need their daily bread as well as animals. The plant must be fed as well as the animal. What kind of food the plant needs, and in what quantities and proportions, are questions of the utmost practical importance. To give a plant what it does not need, or to withhold that which it does need, or to give it more or less than it needs, are all errors, more or less fatal. The different kinds of plants require different kinds of food, as do the different kinds of domestic animals. It would not do to give the dog corn and fodder, any more than to give the horse meat and bread. Neither will it do to give the turnips the same kind of food that you would give the wheat plant.

Plants draw their food from two sources—the soil and the atmosphere,—the latter supplying much the larger proportion. The main bulk of plants consists of carbon, oxygen, hydrogen and nitrogen, and all of these are taken from the atmosphere except nitrogen. Of the weight of the plant, carbon constitutes about 45 per cent., oxygen about 40, hydrogen about 7, and nitrogen

from 3 to 10; the latter varying in different plants. Plants get their carbon from the carbonic acid of the atmosphere; their oxygen from compounds rich in that element, such as water; their hydrogen from the elements of water; and their nitrogen from its numerous compounds, such as ammonia, nitric acid, &c., except in the case of the leguminous plants, which take it from the atmosphere.

The amount of food necessary to be supplied to the plant is very small when compared with its bulk.

The food to be given by manuring, with the exception of nitrogen, consists of the mineral elements which go to form the ashes of plants. The mineral elements of plants constitute a very small proportion of their weight—only about 5 per cent. on an average—and these are always found in the ashes after combustion. The amount to be supplied in a fertilizer is still less,—as the soil, however poor, supplies most of the mineral constituents abundantly. The amount of ashes yielded by plants varies very much in the different plants, and different parts of plants. Thus, the straw of wheat yields 6, whilst the grain yields only 2 per cent.; corn only yields 4 per cent. of ashes, whilst tobacco yields from 9 to 30.

The ashes of tobacco contain 37 per cent. of lime, 20 per cent. of potash, and 12 per cent. of magnesia. A crop of 1,000 pounds per acre would extract from the soil 75 pounds of lime, 40 pounds of potash, and 24 pounds of magnesia. The wheat plant yields only 4 per cent. of ash, of which the straw furnishes 6 and the grain 2 per cent. The ash of the grain contains 3 per cent. of lime, 25 per cent. of potash, 10 of soda, 12 of magnesia, 46 of phosphoric acid, and 3 per cent. of silica. The ash of the straw contains 11 per cent. of potash, 3 per cent. of soda, 24 per cent. of magnesia, 6 of lime, 5 of phosphoric acid, and 66 of silica. The organic elements of wheat consist of from 12 to 25 per cent. of gluten, 60 per cent. of starch, and 5 per cent. of albuminous matter. Starch is the main ingredient of flour, of which it constitutes about 75 per cent. Starch is insoluble in cold water, and when taken into the stomach as food it undergoes a chemical change, by which it is converted into sugar before it can be assimilated or digested. And so when grain, such as wheat or corn, is seeded, their starch, after germination takes place, is first converted into dextrin and then into sugar, before it is dissolved and put into a condition to be assimilated by the plant. After it has been thus assimilated and enters into the growth of the plant, it is changed back into starch again.

A great many organic substances yield no ashes on being burned,—being made up entirely of gaseous matter solidified. I mention, as examples, sugar, starch, fat, the oils, and many other articles of food. There are three kinds of sugar—Sacharra or corn sugar, glucose or grape sugar, and fructon or fruit sugar.

Many acid bodies may be converted into sugar by chemical action. The acid properties of most fruits and vegetables are thus changed in the process of ripening. Almost all kinds of fruits and vegetables are more or less acid whilst young and growing, but in the process of ripening their acid properties are gradually converted into sugar. This change is produced by the light and warmth

of the sun. Fruits that have full access to the rays of the sun are always sweeter than those that grow in the shade. For the same reason, tropical fruits, or those grown in hot climates, are sweeter and better flavored than those grown in cold climates. But to return to the subject of plant food. The value and efficacy of manures or fertilizers are measured and determined by the character and quantity of the fertilizing matter which they contain, and the more concentrated a fertilizer is, the better. All manures, both chemical and domestic, contain more or less inert matter unfit for plant food. Stable manure, for instance, contains only from 75 to 100 pounds of fertilizing matter per ton,—the balance being inert matter, consisting mainly of water. One thousand pounds of stable manure contains about 800 pounds of water. The same thing may be said about the soil. The great bulk of the soil is inert matter, incapable of furnishing food to plants. This inert matter of the soil, however, serves a very useful purpose. It acts as an absorbent for the food of plants, and furnishes a bed for their roots to grow and expand in. In the matter of our domestic manures, an immense amount of time and labor might be saved if one could separate the inert from the fertilizing matter. And this is practicable to a very considerable extent. First, by keeping our manures under shelter, so as to exclude the rain water; and secondly, by throwing it up into heaps, so that the water may evaporate or drain out. The first is much the better plan,—for even when the water is drained out, it carries a considerable amount of fertilizing matter with it.

The chief cost attending domestic manures is found in their hauling and application, and this cost is always in proportion to the distance it has to be transported. Ordinarily it takes about 20 loads of manure to enrich an acre of land. When the distance is say half a mile, a common plantation team will make about 10 loads per day, which, estimated at 25 cents per load, would make the cost of hauling \$5 per acre, with \$1 more added for the scattering, being \$6 in all. When the distance is greater, the cost will be greater—otherwise, less.

I estimate, that when domestic manures are kept under shelter, 50 per cent. of this cost may be saved, and at the same time a much larger amount of fertilizing matter retained in the manure; since, when it is thrown out of doors, a large amount of fertilizing material is lost by drainage and evaporation.

Now take a ton of chemical manure,—say one carrying 5 per cent. of ammonia, 20 per cent. of phosphoric acid, soluble and insoluble, 5 per cent. of potash, and 3 per cent. of magnesia, &c. Such a fertilizer would contain about 700 pounds of fertilizing matter; the balance—say 1,400 pounds—is inert matter. A portion of it—say one-half—is necessary as an absorbent; leaving 700 pounds,—not simply unnecessary, but adding a very considerable amount to the cost of transportation and application. Now it would be far better, and much cheaper, if in buying our fertilizers we were to select a highly concentrated one with every pound of unnecessary material left out. Such a one would cost more per ton, but it would require a much smaller application, and would be in the end much cheaper and more effective.

A low-grade fertilizer would contain still less fertilizing matter and still more inert matter to be paid for, transported and applied, involving serious more or less loss. It is the easiest matter in the world to get up a cheap fertilizer. You have only to add more or less inert matters which cost the manufacturer nothing, but which the poor farmer has to pay for, transport and apply, whilst it is of no value whatever to him.

Cumberland Co., Va.

WM. HOLMAN.

[TO BE CONTINUED.]

The Woodlawn (Va.) Agricultural Society.

Messrs. Editors *American Farmer*:

Being permitted again to resume the duties of secretary of the Woodlawn Agricultural Society of Mount Vernon, Virginia, I will endeavor to give you a synopsis of the three monthly meetings past.

At the February meeting—as the custom now is—the club resolved itself into a critical committee of the whole in examining the premises of our host. On this farm was found a small flock of fourteen sheep that had presented their owner this season with twenty-eight lambs. One of his heifers was judged to be too fat to keep profitably for a milker. But it was not to be wondered at that everything was in such a thriving condition, when it is well known that John Ballenger is one of our best farmers and a liberal feeder of whatever has life around him. Dr. Howland exhibited a quantity of wheat bran which had been boiled continuously during eight months without diminishing its weight in the least. Is that any indication that the gastric juice in an animal's stomach will not dissolve it? A question was raised,—Whether it would pay farmers to purchase clover-seed at the present high price? Some members said they had paid even higher prices than was demanded now, and would do so again rather than do without it.

At the March meeting of the club, a portion of the report reads as follows: "An article was read from the *Country Gentleman* on the corn crop of the United States. Some of the statements concerning the cost of raising a bushel of corn, and the amount of animal matter possible to be obtained therefrom, were deemed by several of the members very questionable. From the tenor of the article it is reasonable to infer that the hand that wrote it never planted nor tilled an acre of corn during its whole earthly existence. Could the practical farmer forget the mischievous influence of such writers, he would be highly amused at their ignorance and assurance." A resolution was adopted at this meeting, requesting each member to select one or more crops to carefully experiment with, and report in writing the exact cost and method of production, together with all the facts connected therewith. Fifteen members gave their names to the secretary, with the experimental crops they would report upon. A proposition was made to hold an agricultural and horticultural exhibition this fall. A committee was appointed to make all necessary arrangements.

At the meeting held in April the committee on exhibition recommended that a suitable room and lot be procured in the city of Alexandria in which

to hold an exhibition this fall. Dr. Howland asked that the secretary should read an extract from the "True Theory of Farming," by L. H. McGinnis, in the April number of the *American Farmer*, relating to the criticism of the December report of the Woodlawn Farmers' Club of Virginia. After the article was read, various comments were made by these "benighted farmers in search of light," which were not altogether complimentary to the profoundly wordy-wise reformer of Johnston chemistry. The members of our club are more inclined to rely on their own individual experiments and practical experience than upon any theoretical "professor," or of an "humble correspondent," who "doubtless has erred and may in future err." The question was asked, What is the proper width of tire for farm-wagon wheels, so as to insure the easiest draught on the farm and on the road? Two members replied, that they had wagons with tires from four to six inches wide, which they found very objectionable on muddy roads, as they gathered such a large amount of mud as to make the draught very heavy. On soft sod ground such wheels were advantageous. For general purposes two and a-quarter inches was recommended as the proper width for farm-wagon tires. Many members expressed a desire that a depot for the sale of agricultural lime should be established in the city of Alexandria, so that they could purchase when it would be convenient to haul it home. A committee of three was appointed to make arrangements with the lime company at Riverton to establish such a depot of supply. Adjourned to May 26th.

N. W. P., Secretary.

Phosphates and Super-Phosphates.

Messrs. Editors *American Farmer*:

In continuation of the subject mentioned in my last paper in regard to the importance of a State institution for the purpose of agricultural experiments, the necessity of which you advocate, I claim the favor of being again heard through your valuable journal, and my first proposition is this: that no chemist, no speculator, no dealer in fertilizers, can tell the farmer what his lands need. It is ignorance; even worse, it is presumption, and I could use a stronger term, for them to say they know what is the thing for corn, wheat, tobacco, &c. I have seen them fail time and again, and how many of our farmers have been compelled to pay for worthless stuff, being gulled by a long list of certificates from some paid chemist, testifying to its efficacy for cereals, &c., without ever asking the questions: What is the condition of your land? What is it likely to need? and what has already been tried? There is no question that many compounds do good, but which ingredient of the compound is the needed article, is, and must be the great question for the farmer?

For argument's sake, suppose the land needs soluble phosphoric acid, and just at this point I say emphatically that no land will admit of the presence of soluble phosphate of lime, or, chemically speaking, mono-phosphate, and every chemist (not the so-called ones) knows it. The affinity, the powerful attraction of phosphoric acid for a base repudiates the idea of the existence of a mono-phosphate (commonly called super-phos-

phate) in company with any alkaline base, such as lime, ammonia, potassa, alumina, magnesia, &c. Hence, the utter impossibility of its existence in the soil, which I claim as conclusive that plants do not take up soluble phosphate of lime, but are supplied with the insoluble tribasic phosphate of lime, put in proper condition by the action of water and carbonic acid for the roots to take it up; therefore, it is, strictly speaking, dissolved bone, and not soluble phosphate of lime. This is bone such as is found in all animal and vegetable structures, and contains, in 156 parts, 72 of phosphoric acid and 84 of lime; whereas the soluble, mono- or super-phosphate contains 72 of acid, 28 of lime, and, in this case, the acids having such a strong attraction for a base, unite with 2 atoms of water, which acts as a base, adding 18 pounds to it,—producing 118 pounds of what is called soluble bone phosphate. Acid 72, lime 28, water 18, when we really want acid 72, lime 84.

We know that super-phosphates of lime act well in many cases, and why? The land, as we suppose, needs bone, and, applying a super-phosphate, the first contact with an alkaline base throws down a fine precipitate of bone, which is estimated by Professor Rood, of Troy, as the twenty-thousandth of an inch in diameter, while the finest bone flour will not average one-hundredth of an inch,—thus presenting a large surface for the action of the water and carbonic acid. For this important result agriculture owes much to science brought into practice by chemists, and for one I thank them.

Admitting the land needs the above-mentioned element, the next question is, what do we pay for it? A few facts will tell the tale. On an average, I do not think the popular phosphate manufacturers claims more than from 30 to 40 per cent. of bone phosphate. I have examined some that does not contain one-half of that; but, giving credit for 35 per cent. costing \$45 per ton, we are paying \$128 a ton for pure bone phosphate. I have usually used bone-ash and bone-black to supply the necessary phosphate, either one of which will average from 70 to 75 per cent. of pure bone phosphate, and costing, as a general thing, from \$40 to \$45 per ton. Hence, a ton of pure bone phosphate will stand about \$50 to \$55, a saving of \$73 per ton over the average super-phosphates in the market. This season I have purchased a superior bone flour, containing over 50 per cent. of pure bone phosphate, for \$33 per ton, which would be at the rate say of \$66 per ton of pure bone phosphate, at the same time giving me the benefit of 40 per cent. of organic matter, capable of producing all the ammonia that is claimed as necessary for the starting of plants; a fallacious proposition, which can be clearly proven by the most simple experiments, and which ought to be the first subject to claim attention from our prospective agricultural station, which I hope the agricultural interest of our State will insist upon having at once started.

The above calculations have been made upon the basis of animal bone. Now, take the mineral phosphate, of which, I presume, nine-tenths of the super-phosphate is made from, and we have the following result: Navassa and Carolina phosphate said to contain 60 per cent. of pure bone phosphate, and costing from \$20 to \$25 per ton,

we have a pure bone phosphate for from \$30 to \$40 per ton—a saving of \$88 per ton.

Owing to the chemical combinations of the mineral phosphate (entirely different from the animal bone) it is deemed necessary to bring into activity the latent phosphate to treat it with either sulphuric acid (oil vitriol) or muriatic acid, which breaks up its normal condition, forming new compounds, such as sulphate or chloride of lime, iron, magnesia, &c., and the due proportions of mono-phosphate of lime, or soluble phosphate. The latter, on reaching the land, is precipitated as a tribasic phosphate of the same compound as if prepared from animal bone, and in a condition to be used by the plant after being dissolved by the agency of rain and air. Now, the cost of such a compound, and, to make the case as clear as possible, we take sufficient mineral phosphate to make 100 lbs. of bone phosphate, say 166 lbs., costing.....\$1.66
80 lbs. of oil vitriol ... 2.40

\$4.06—or \$81 per ton: a saving of \$47 per ton, to pay expense of handling, &c., and the satisfaction of knowing what we have, without any certificate from some accommodating chemist, such as can be found in all our cities. This is another important question to be handled by our hoped-for station.

It will be observed that a ton of the above will make three to four tons of a phosphate fully equal to many that are sold in this and other markets.

The process I have followed for some time is to reduce the super-phosphate to ordinary bone phosphate by the addition of good ashes and air-slacked lime in fine powder, so that when applied I am sure of having an alkaline mixture of precipitate bone, &c. Last season found it to act beautifully on corn. Any salt of ammonia formed in the first mixture was of course dissipated by the addition of the lime, causing the mass to smell loudly of hartshorn, or volatile salts, the latter a proper name, for it will fly away the first chance offering.

On all farms there is more or less bone where meat is used, and a good plan is to have a tight barrel, (any old oil barrel the best) with a mixture of about equal proportions of muriatic acid and water,—into which the bones, large or small, may be thrown. In a few days they will entirely disappear, being dissolved by the acid. When the acid ceases to dissolve more bone, it can be mixed with dry earth, ashes, &c., and spread as any phosphate. The bones of any dead animal could be dissolved in this way without grinding. With this acid a perfect solution is obtained, the result being super-phosphate of lime, and muriate of lime, the latter dissolving in half its weight of water. This result is very different from the action of vitriol, or sulphuric acid, which forms the insoluble sulphate of lime. The price of muriatic acid in first hands is about the same as oil vitriol of 66 degrees.

A. P. SHARP.

Baltimore, May, 1877.

Brighton Grange Notes—No. 2.

The regular monthly meeting of Brighton Grange (60) took place at its Grange Hall and Library on Tuesday, April 27, 3 P. M.; W. M., Isaac Hartshorne; W. S., Ella M. Lansdale.

The committee on subjects for discussion had announced at the previous meeting that the subject for the next would be, "Difference between Political Economy and Politics," and the members came up warm and "eager for the fray."

Resolutions were introduced previous to the opening of the debate, prescribing its limits and defining its character, that this exceedingly delicate subject might be handled with proper care to perpetuate the good feeling and harmony at present existing throughout the order, that the W. M. or any member was at liberty to exercise promptly the right of the call to order for the good of the order; that it was as important to discuss means to secure a proper expenditure of the public fund as it was to work hard to earn it, and giving the privilege of the floor first to the sisters, if they had aught to say on the subject.

Worthy Pomona introduced the discussion by a few appropriate remarks, and read a most excellent article from the "Galaxy" on the question, stating that its views were valuable as coming from a non-partisan, intellectual source.

W. Chaplain Gartrell gave his views at length in favor of taking hold vigorously of this matter as reform at the proper time and place, but was very anxious that no improper discussion should take place in the grange to imperil its efficiency. After defining what in his judgment was the line between politics and political economy—which will be given in the future—W. Treas. Schofield took the floor and read from Say's Political Economy his definition of the term, and then spoke at length, going into details of the abuses we now encounter. As the discussion was specifically placed by resolution under the seal of the grange, we are at liberty only, at this time, to give the outlines of the language, but shall preserve the documents, and in the near future publish such portions as shall help on the objects the order has at heart as announced in the last Declaration of Principles of the National Grange.

W. A. S. Thos. Lansdale, chairman of committee on subjects for discussion, preferred to leave, until another meeting, a further exposition of his views, and spoke briefly. An animated and protracted debate sprang up chiefly between the treasurer and the chaplain, concerning the mode of securing redress and the character of the discussion advisable in the grange—each giving the question a wide and liberal range.

As it was getting late and several of the members had not yet spoken, all the time fully and earnestly taken up, W. L. Stabler thought all should have a fair and full opportunity to express their opinions, and upon motion the same question was made the subject for discussion at the next meeting, 6th day, 5th month, 25th.

The tenor of the views expressed was similar to that exhibited in frequent remarks of the *American Farmer* concerning the necessity of honest public officers and an economical and efficient administration of the public fund in the interest of the people, and not of individuals whose interests are antagonistic to those of the general public; and unless we are mistaken, the step taken by this grange in discussing thoroughly this matter—the foremost question of the times—

unquestionably is a beginning of a grand march against the entrenchment of political error, for the overthrow of those who have made politics a nefarious traffic, regardless of the rights, the interests and the privileges of the people. We want the honest thing in political matters, and in public affairs, and it is not the honest thing to make whiskey, bribery and corruption of the people, the means to attain power, nor is it the honest thing to make the prostrate bodies of the people thus corrupted and degraded, merely stepping-stones for self-elevation and self-aggrandizement.

D. L.

[The grange, it is acknowledged, is touching upon "an exceedingly delicate subject," one which they will find it difficult to manage, to avoid falling into the discussion of acknowledged doctrines and practices, as held by the political parties of the day. We hope the worthy master of the grange will see to it that the discussion is kept within proper bounds. We would, however, prefer seeing the meeting occupied with dissertations upon matters purely applicable to agriculture, and the best modes of increasing the products of the soil. Such subjects as the one stated is no more peculiarly important to farmers than to all other classes, and can be discussed to better advantage, perhaps, in miscellaneous gatherings, or in the local or metropolitan journals.—Eds. A. F.]

Notes from Amherst, Va.

Messrs. Editors American Farmer:

I threshed my German Millet this spring and I found that horses and cattle eat the straw in preference to corn-tops or shucks. I have already put in about seven acres for hay and grain feed.

Wheat, grass and fruit crops promise large, especially peaches.

I commenced corn-planting April 16th—about 20 acres. I covered with a large harrow, running across the rows marked out with shovel plow. The negroes said it would not do, but the proof of the pudding is in the eating, and I can say that I never had corn come quicker nor more evenly. I intend to harrow the corn as soon as it dries off from this rain, and to work it with the harrow till six to ten inches high, about every five to ten days.

Last February my peach trees commenced to blossom, (the 6th) and I noticed that many of the twigs and buds were covered with a blackish louse, and I judged that they were the cause of the death of some of my trees, and I commenced a war of extermination by fire. Some trees I pruned off nearly one-half the top to get rid of them. I went over my orchard two or three times. Result—this year I could not find enough to swear by. Moral—if every one would make a war of extermination on all pests when they first appear, this stitch in time would save untold thousands and millions.

I did the same thing on potato bugs two or three years ago, and have not been bothered since.

W. M. E.

Clover and Orchard Grass.

Messrs. Editors American Farmer:

Last spring I sowed with my oats red clover and orchard grass seed, which I designed for pasture the following season, each of which took well; and in the fall I had some surplus straw, which I spread lightly over the ground as far as it would reach, thereby protecting the roots of the young plants through the winter. Now, this spring the contrast is quite perceptible. I believe that the orchard grass and clover show 50 per cent. better than where the straw did not reach. It will afford a good pasture during the summer, and I intend to plow it in this fall for wheat. Stimulated with this growth, I this spring sowed on a very stony lot red clover and orchard grass seed, (quarter bushel of the former and two bushels of the latter to the acre) without any other grain; there, if they take as well, the lot may remain undisturbed with the plow for years. to come for pasture and mowing, as may suit.

Cecil County, Md.

J. S. E.

Better Times to Come.

Messrs. Editors American Farmer:

In our daily intercourse the prevailing topic is hard times. The flow of the circulating medium in a general way is feeble, but yet it flows. There are many things in abundance,—wheat, corn and meat. Plenty of goods, wares and merchandise, animals of all kinds, birds of all kinds, and fish in the usual varieties. So far we are blest. Compare the situation of our land, with its abundant supplies and peace prevailing, with others where there are war, pestilence and famine. If we can barter and trade—exchange—say farm products, for such goods as we may need, we may tide over inconveniences, as there surely must be a change for the better; such has hitherto been the case. In as large a country as we have, it is seldom that hard times exist all over at once. We have most every year doubts somewhere or other. Such things prevail everywhere, to some extent, once in a while. Whilst it is good somewhere, that section can afford relief to a great extent, impart cheerfulness and inculcate industry and economy.

The mariner does not stop his vocation because of storms, nor do shipwrecks prevent navigation in general. One may be depressed by continuous cloudy weather and cold seasons, but sunshine and balmy breezes soon cheer up the people. It is an old saying: "It's always darkest just before the dawn of day." We know what is past, and we know that history often repeats itself; so it don't do to give up the ship, as there is never a wreck whilst there is a cat left aboard. A few months ago people thought wheat would never bring more than a dollar a bushel again; it has brought over two. Last year potatoes could scarcely be given away; now they rate high. Let the shoemaker stick to his last, and the farmer to his plow, and every one do his best in his vocation. Branch out whilst times are flush and draw in when money is scarce. When you are right, then go ahead. When your hand is to the plow, look not back. Remember what happened to Lot's wife by looking back. RUSTIC.

From Our Corresponding Editor.

THE SOUTHERN OUTLOOK.

Throughout North and South Carolina we have had a very late spring. The cold and wet season has generally retarded farmers in planting, but the stand is good and the crops start off evenly and beautifully. Fruit bids fair to be abundant through this section. Apples, peaches, pears and the smaller fruits, are so far looking well. Wheat, rye and spring-planted oats (winter-planted was almost destroyed by the excessive cold) are doing well, and promise an abundant crop. We believe, as if by common consent, the farmers have planted much more corn, &c., and less cotton than formerly. This is certainly wise, for now, with the prospect of an exhaustive European war, the provision crops will doubtless command higher prices. Throughout those States, as indeed the "solid South," the effect of the new policy of non-interference by United States troops in our State affairs, has had an immediate and most salutary influence upon the whole people and every industry. Insecurity, depression and gloom, from the incubus of a military control that erstwhile hung about us, have given place to activity, hope, a revival of business, and universal buoyancy in everything here. The actual experiences of war were but little more depressing to every interest and industry than the long reign of military interference, which has just been lifted from the shoulders of the people. The elasticity and energy with which the people throughout the South renew their strength "like the eagle," and mount upward on the wings of industry, effort and active enterprise, surely mark a new epoch in their progress.

LEAVES, PINE STRAW AND ASHES.

These constitute a home reserve for enriching our farms, which almost every place can command. Very many farmers have already tried and proved the virtues of the combination above as a fertilizer and renovator of their soils. Heavy benefits have been found by simply spreading a thin layer of leaves and straw alone, under corn or cotton; but a sprinkle of ashes over them, to hasten decomposition, greatly aids the cause.

It would pay farmers, as opportunity offers, to have large piles of straw, leaves and muck massed up wherever convenient in their woods,—sprinkling among them, as raked together, fresh ashes, then leave the mass to form itself into an active fertilizer for a time of need. Thus, with scarcely a perceptible outlay, an active, lasting and ready renovator for his worn lands would be at his command.

COWS, SHEEP AND HOGS.

Every farmer should see to it, that these are kept in thrift and plenty about him. They fill easily and gracefully their places in the farm economy. They are indispensable adjuncts to complete prosperity on a well-ordered homestead. They increase and gather strength in good or bad seasons. They are all prime agents in the renovation of land. They furnish a present resource for clothing and food at all times, and if crops are short or fail, they are a sure resource for ready money.

The traveller feels secure of plenty and comfort when well-fed stock browse about the lanes

and creek-banks of a farm. The keen-visaged farmer, with pencil behind his ear, who tells you cotton will make it all—furnish you every need—with less ado than the bother of their keep—their sometimes depreciations, and death—as some of the evils to which their flesh, as all flesh, is heir. Be not deceived. There are mishaps to cotton as well as cattle—more, we might say, to the "king" than to the "kine." The dread terror, even in the cotton belt, of drouth, rust, the worm, or low prices, hangs lowering always. Therefore, while the farmer makes it, let him make more abundantly of corn, grain, and the root crops—being sure of his cattle on — hills, whether "a thousand" or not. His table supplied with fresh fat mutton in the sultry days of August and September, will show his wisdom. His choice beef from then till Christmas will re-echo the compliment, and his formidable array of well-fattened porkers ready for the slaughter at mid-winter will cap the climax as to the wisdom of his course for home comfort and true independence. In the South especially, where so little wintering is required, and so many nutritious grasses and seeds and roots abound, it is the best and safest policy for farmers to keep as much stock as their space will admit, or as they can command rough food to supply through the winter.

Our French Letter.

THE CATTLE PLAGUE.

Messrs. Editors American Farmer :

France has escaped this time the outbreak of the cattle plague on the Continent, and her exemption is to be attributed to the stringent defensive proceedings taken from an early hour. When the alarm was sounded, agriculturists at once adopted those measures of safety peculiarly resting with themselves, and purchased formerly at a costly experience, viz: carefully avoiding all the possible agencies of contagion, and vigorously isolating an animal the moment it presented any symptoms of sickness. The three chief agencies in this country for communicating the cattle plague are dogs, butchers and drovers, and farm-yard manure.

AGRICULTURAL TOURS.

Every year the government contributes to the expenses of an excursion of the best pupils of the agricultural college of Grignon, not only to visit and study the various agricultural regions in France, but to extend their investigations to neighboring countries. This year Algeria is the object of the excursion. From notes published of the pupils' tour in Holland last year, there are some curious facts concerning the famous Badhoeve farm, belonging to M. Amersfoort. The area of the farm is 500 acres; thirty years ago it was covered with 16 feet of water, for it formed part of Lake Harlem. When drained by means of pumps, and the water run off by circular canals,—processes still kept up,—the soil, a mixture of clay, sand and peat, was first cultivated with colza, mustard and flax. It is curious that mustard and colza succeed alike on lands reclaimed from the sea, as also on the sandy wastes of Brittany. The crops now cultivated are rye, oats, colza, beet and potatoes; the out-offices are

luxury itself, and the latest improved machinery is employed to profusion. As is the case in Dutch farming, all the field operations are effected with rare perfection. Owing to the innumerable insects continually produced in the soil,—the bottom of an old lake,—bullocks could not be employed to till the soil; so recourse was had to steam ploughs. Butter and cheese are the main products with M. Amersfoort, and the dairy is superintended by his lady, rich and highly connected, and the composer of a very popular oratorio. The cows belong to the celebrated black race, whose milking qualities are proverbial,—some yielding as much as 4,865 quarts yearly; the average yield per cow daily is 13 quarts; 66 gallons of milk produce 18 pounds of butter and about 40 pounds of cheese, or, representing a value for the milk of three sous per quart. In the vicinity of the Zuyder Zee, the sand of the douns is moved by the slightest wind, but which has been successfully consolidated by sowings of the curious graminiferous plant, *calamagrostis arenaria*; larch is also employed to secure consistency, as also the black pine of Austria and occasionally birch.

REGIONAL SHOWS.

The twelve regional agricultural shows under the auspices of government, recently held, may be described as presenting solid progress in the breeding of stock, and a marked disposition to purchase agricultural machinery. The Departmental Council of the Haute-Garonne have adopted the plan of annually paying a bounty of fr. 250 to the owner of a first-class bull, who is bound to allow the animal to cover cows during six months, and to charge one franc for each service.

SHEEP-RAISING.

Sheep-farming is very general in the same department, the object being milk, to prepare the famous Roquefort cheese; when six weeks old, the lambs are separated from their mothers and sold; this is the first profit; then succeed the milk, the wool and the manure; a net profit of fr. 20 per sheep is what is generally realized. In the Lower Pyrenees, a cow for the butcher could be purchased 25 years ago for 100 francs; a similar animal could not be obtained now under 600 francs. In the Landes, where bullocks appear to supersede horses, the humble owner of an ox loves the animal as much as the Arab does his steed. At three o'clock in the morning, in summer, and five in winter, the window of the bedroom where all the family sleeps, opens, and the ox stretches forth his neck from the neighboring stall, and enjoys the first meal, mouthful by mouthful. As a general truism, the introduction of superior breeding stock—cattle and sheep, for crossing native breeds, have signally failed, where the food has not been proportionably superior. In the fat pasture lands of the Nievre, the farmers, unable to compete with foreign wool, have wisely turned their attention to the production of mutton; the Southdowns and Dishleys are the breeds preferred; between 15 and 20 months they are ready for the butcher, yielding 90 lbs. of meat, and sometimes double. Leicester sheep are preferred for humid regions and moist soils. In the department of Allier, farmers allow at the rate of 2½ acres to the two-thirds of a head, and their

ambition is to be able to keep at the rate of one head per that acre.

BUTTER-MAKING IN SCHLESWIG-HOLSTEIN.

Schleswig-Holstein, till recently, surpassed Denmark in reputation for butter-making, which is not equal to meaning that its process is bad. The milk is placed in vessels capable of containing four quarts, so as to form a sheet 2½ inches deep; it is skimmed two or three times, at intervals of 12 hours; then strained through a hair sieve into deep tubs, where it remains twenty-four hours to acquire consistence and a tart flavor when it is churned. Ice is employed in warm weather. The butter is never washed with water as in Holland; the milk is pressed out with the hand; when well worked, the butter is allowed to remain for 12 or 24 hours, covered with a layer of salt, after which it is again kneaded, and seasoned till it contains about 6 per cent. of salt. Good judges say, this kneading process destroys the fineness, the aroma, and the consistence of the butter. The cheese is prepared from skim-milk and is flavored when the curd is in the mould, with cloves and cumin seeds. In Denmark the butter is considered as made the moment the particles appear in the churn the size of an ordinary pin-head. Only 3 per cent. of salt is added. All the butter is artificially colored, and the coloring is added before commencing the churning, at the rate of quarter of an ounce, or the half of this quantity, as the cows are fed on green or dry forage.

OATS AND CORN FOR HORSE FEED.

The Omnibus Company of Paris has at last become convinced of the utility of reducing the daily feed of oats (18 lbs.) by one-third, making good the deficiency with maize. The experiment was tried upon 10,000 horses, employed in severe and general work, and while no change was to be observed in their strength, it was remarked they lost much of their fire. A little over two sous per day was economized per animal, representing a total annual benefit of fr. 100,000. The maize is crushed, and the horses had to be accustomed to it gradually. In addition to this ration, the horses receive equal portions of hay and straw.

PARIS, May 3, 1877.

F. C.

A New York Farmer in Virginia.

We were not aware, when we gave in our May number an account of the history and dairy qualities of the Holstein breed of cattle, that we had so near the borders of our own State a large and valuable a herd of the same, the owner of which, Judge Wm. Fullerton, who is a subscriber to the *American Farmer*, receiving his copy of our journal at his place of business in New York.

Judge F., who is one of the most eminent of New York's great lawyers, at one time the partner of Mr. C. O'Connor, and subsequently one of the judges of the Supreme Court of the State, and ex-officio a member of the highest Court (the Court of Appeals,) sold a large and model farm in Orange county, New York, about 4 or 5 years

ago, and invested in the purchase of 500 acres of the so-called worn-out land of Fairfax Co., Va., about 2½ miles from Clifton Station, for a description of which we are indebted to the *Southern Planter* for May, in which a portrait of the judge is also given. The judge, finding the bench not congenial to his tastes, resumed his law practice, and for the last year is supposed to have tried more important cases than any lawyer at the American bar. His business as a farmer is, however, of what we wish to speak, and we copy the remarks of our cotemporary thereon, as it will show to our Northern friends what can be done on our much-derided fields by energy and well-directed skill. To his original purchase Judge Fullerton has since made additions, so that now his farm comprises between seven and eight hundred acres. At the time of his purchase there were not ten acres of cleared land on the whole tract. The portion which had once been cultivated had, during and since the war, grown up to pines of from four to six inches in diameter; all fences had been destroyed, and no vestige of a house was left. When the Judge commenced work (about four years ago) his whole farm would not have supported six head of cattle. Now he keeps over seventy-five head, and has for sale over two hundred tons of the best quality of English hay and of clover, and has no difficulty in getting from eighty to ninety bushels of shelled corn an acre out of his "worn-out" land.

We doubt whether any farmer in the South has wrought such a magical transformation in so short a time. The secret of his success lies in the fact that he is a thorough master of the principles which lie at the foundation of successful agriculture, and in the further fact that he is an enthusiast thoroughly in love with his farm and his stock. To bring his farm to its present high state of culture, he used, in the first place, the commercial fertilizers until he secured a large clover crop; then, by turning this wonderful crop under as a green manure, he soon brought his land to an almost perfect condition.

Shortly after commencing his farming operations he began the importation of the best strain of the celebrated Holstein stock he could find in Holland, so that he now has a very choice herd of about thirty-five head of thoroughbred Holsteins and a large number of grades of unusual excellence. Notwithstanding he has an abundance of land which might be devoted to pasture, he has adopted the system of soiling his cattle, and he finds a profit in it on account of the great quantity of the best manure which he is thus able to accumulate. All the manure made on the farm is carefully preserved under cover until it is needed on the fields. From time to time, the Judge has been compelled to enlarge his barn accommodations, until now he has probably the largest farm-barns south of the Potomac; and yet he has not room enough to store away the great crops which he gathers from the land over which only five years ago the pine and the sedge had undisputed sway.

At the head of his herd of Holsteins he keeps the celebrated bull Highland Chief 4th, which he purchased of the Massachusetts Agricultural College. This bull is one of the finest specimens of the breed in this country, is thoroughly broken to harness, and is worked almost daily by a boy.

The Chief has no difficulty in drawing a load that an ordinary yoke of oxen could not move.

Of course, as Judge Fullerton is able to pass but a day, now and then, on his farm, he could not have accomplished such wonderful results had he not been aided and seconded by the intelligent co-operation of a foreman capable and willing to execute his plans. He has been very fortunate in finding such a person in Mr. Thomas Fletcher, who has had charge of the farm during its transformation.

The example set by Judge Fullerton is not being lost in his section of the State, so that now the farms of the Rev. Mr. Otis and of Mr. Machin, and others in Fairfax, are finger-boards on that road of progress which our Southern agriculturists must follow, if they wish to succeed. Judge Fullerton is doing a great and good work for us during his intervals of recreation from an exacting profession. Let us profit by his example, and extend the old-time Virginia hospitality to such large-hearted and big-brained men as he, who are willing to unite their efforts with ours to reinvigorating our old and best-beloved Commonwealth.

Tenant Farming.

[The following communication recently appearing in the columns of the *Baltimore American* will be read with interest, as giving the experience of a gentleman of prominence in our State, whose initials will be recognized as those of an extensive land-owner, and whose suggestion as to the spirit which should mark the intercourse and dealings between landlords and tenants is grounded as well in self-interest as in justice to both.]

Upon reading an article in this morning's *American* under the above heading from a New England example, I am induced to send you the result of my own experience.

I have been renting land for the last twenty-five or thirty years, mostly from year to year, each party having the option to terminate the contract, upon three months' notice, at the end of any year. Under this arrangement my tenants have remained from three to fifteen years. One still with me, who came ten years ago without a dollar, is now the owner of farm implements, viz: wagon, cart, plows, harness, drill, reaper, mower, &c., with four head of horses, five or six milch cows, a yoke of oxen, hogs, sheep and calves. Upon about one hundred and twenty acres of cleared land he has thirty-five in wheat, from twenty to twenty-five in corn, twenty-two for hay, ten or twelve for oats and potatoes, and the balance to pasture. Of the other tenants I have had, five are farmers and land-owners, one a merchant, one, in addition to his farm, an active and successful stock dealer (farm stock,) and I have reason to believe that each would be willing to renew his lease upon the same terms were he again a renter of land. Two others are now with me from three to seven years, and two others in their second year.

The practice of mutual confidence and an active interest in their welfare, I find the best guarantee for the protection and improvement of my land, and the success and welfare of the tenant.

A. B. D.

N. B.—One of the farms, containing nearly three hundred acres, after being thus tenanted for twenty-five years, situated eleven miles from a railroad, and with but moderate improvements, I have sold for \$50 per acre to an active, experienced and industrious Frederick county farmer.

The Study of Clover and Wheat Soils.

In an elaborate and exhaustive paper published in the journal of the Royal Agricultural Society, Dr. Voelcker says: The soils for the next experiments were kindly supplied to me in 1866, by Mr. Robert Vallentine, of Burcott Lodge, who also sent me some notes respecting the growth and yield of clover, hay and seed, on this soil. In his notes Mr. Vallentine said: "Foreign clover seed at the rate of twelve pounds per acre, was sown with a crop of wheat which yielded *five quarters* (forty bushels) per acre the previous year." (We adopt the abridgment of the statement as made by our friend, Dr. Lee.) The clover harvested at two cuttings "produced just about four tons of clover-hay per acre."

Nature often does things with a liberal hand. When she makes a soil good for forty bushels of wheat per acre, and other crops in proportion, how much available nitrogen and phosphoric acid does it contain within six inches, twelve inches, and eighteen inches, of the surface of the ground?

It was found by several experiments that it is better for the soil and for the growth of wheat to cut an early crop of hay from clover, and let the second crop stand for seed, than to take two crops of clover hay, as is often done. Indeed to feed the second growth of clover to sheep, leaving their droppings on the land, is not so beneficial to the soil as to cut one crop of hay and another of seed equal to 336 pounds per acre. It is true these seeds remove a good deal of nitrogen and phosphoric acid from the soil; but the gain by the growth of clover roots and the falling of clover leaves before the seed is harvested, and after the first cutting of hay in June, much more than compensates for the elements taken up in clover seeds.

A square foot of soil, eighteen inches deep, was dug from the second portion of the land which produced the clover hay and clover seed. The first six inches, dried at 212 deg. Fahr., gave percentage of phosphoric acid, .349; second six inches, .134; third six inches, .172. These figures show that the first six inches of soil contain fifty per cent. more of this valuable acid than the second six inches; and that the third six inches contain more than the second. Expressed in pounds, per acre, the first six inches have 4,950 pounds; the second six inches, 2,725 pounds; and the third six inches, 3,575 pounds. Add the above figures together and it is seen that an acre of this wheat and clover soil has eleven thousand two hundred and fifty pounds of phosphoric acid within eighteen inches of the surface of the ground, and within the reach of clover roots. At five cents a pound, this acid, which forms 50 per

cent. of the ashes of wheat, is worth \$562 per acre.

Of nitrogen, the first six inches of the above soil had 3,350 pounds; the second six inches, 1,875 pounds; the third six inches, 1,325 pounds. Estimated as ammonia, the first six inches contain 4,050 pounds; the second six inches, 2,275 pounds; third six inches, 1,600 pounds. These figures give to an acre of land 7,925 pounds of ammonia within 18 inches of the surface. In New England, Maryland and Georgia ammonia is worth from 20 to 30 cents a pound as a fertilizer. Take the lowest figures and the ammonia in an acre of this wheat land is worth one thousand five hundred and eighty-five dollars. Land that is good for 40 bushels of wheat per acre has over two thousand dollars' worth of two costly elements of wheat near the surface of the ground. An acre of good two-year-old clover will give the soil about fifty pounds of ammonia, or its equivalent.

Assuming the soil to have 5,000 pounds of this volatile alkali, and to gain fifty pounds every two years from clover, it will take one hundred crops and two hundred years to gain the ammonia in the poorest sample of Mr. Vallentine's wheat soil. The analyses of two specimens of this land show that one hundred tons of lime exist within a foot of the surface. It will harm no farmer to learn that nature forms one of the best and most enduring soils cultivated by his species. One crop of clover roots supply ammonia enough, or its equivalent, to make two crops of wheat. To eat down clover by stock is to cut short the development of a full crop of roots. In raising seed, this blight on clover roots does not take place. Clover roots should be more studied.

Georgia Bureau of Agriculture.

From Dr. Janes, of Georgia, we have received his report for April, on the crops, &c., of the State up to the 1st May, which conveys much useful information to the farming community of the State. It is only necessary for us to remark that the indications of the prospects for agriculture are very satisfactory. It is stated that whilst the area of cotton planted in the State is 99½ per cent. of that of last year, at the same time, *without a single exception*, there has been an increase in all the provision crops; and it is stated as an interesting fact, perhaps surprising to many, that the area devoted to *corn* is to that planted in cotton over the entire State, as 136 to 100.

The increase in the acreage of Sorghum shows that this once-despised crop is justly growing in favor, and the increase in the area of German or Golden Millet is 25 per cent.; lowland rice 3, and upland rice 12 per cent.

The fruit crop is reported favorable, and in view of the prospectively large crop, farmers are advised to make preparation for drying quantities for winter use and for market. By the use of the process of furnace-drying the operator is independent of the sunshine, and the fruit is much superior, and will keep better. Apples

dried by furnace heat retail in Atlanta at 15 to 20 cents per lb.

The Dr. says the usual complaints are made of sheep-killing dogs, and that "it is much to be regretted that all efforts, heretofore made, have failed to induce the passage of a law to remedy this universally-admitted evil—this only obstacle in the way of successful sheep husbandry. It is to be hoped that the problem will continue to be discussed, and if the people desire such a law as will encourage and foster this industry, that constitutional difficulties, if any exist, may be removed."

The stock of hogs of all kinds has increased 11 per cent., which closely corresponds with the increase in the corn crop of last year over the year previous.

The quantity of fertilizers purchased this year is 17 per cent. greater than last year—a very considerable increase. There has been a falling off in the proportion composted this season, which is satisfactorily explained by the unusual tardiness of dealers in supplying the demand for Acid Phosphates, in time to justify the forming of compost heaps.

The results of the soil tests of last year, as published in circulars by him, abundantly sustain all that has been claimed in favor of the greater economy and efficiency of properly-prepared composts, (as shown in the April No. of the *American Farmer*.) of Acid Phosphate, cotton seed, and stable manure, over the ordinary Ammoniated Super-phosphates.

Dr. James says that his recommendation to increase the corn and provision crops, in view of the demand on account of the foreign war, has been well received, and many farmers have adopted the suggestion. He recommends the preparation for a large turnip crop, and that every acre possible be planted in sweet potatoes—the vines may be planted until July, with fair prospect of success.

Our Prospects for the Food Market of Europe.

It is not the war in Europe alone that is to give an impetus to American agriculture. Long before the outbreak between the powers now engaged in destroying each other's resources was seriously thought of as being near at hand, the increase of the exportations of our breadstuffs and meats had largely increased to the principal market for these products (Great Britain.) A few years ago Russia sent to England nearly twice the quantity of grain which reached that country from the United States, but the statistics for 1876 show that the two nations have changed positions, and we are now the greatest contributor to the market competed for; and the decrease in freights and charges on grain to our Atlantic ports will enable us to maintain the hold we have now in possession, beyond any peradventure.

The American scholar, bibliophile, philosopher, Geo. Ticknor, whose letters and life form one of the most interesting works of current literature, wrote on the future preponderance of our supplies to Europe in 1855, the following prophetic words to John, King of Saxony: "Your short crops in Europe are filling the great valley of the Mississippi with wealth. * * * Indeed, your

European wars are not only making the States in the valley of the Mississippi the preponderating power in the American Union, but you are making them the granary of the world."

The *Agricultural Gazette*, the leading farmers' journal of England, remarks upon this prophecy:

"Wonderfully has this prediction been fulfilled. Year by year since the date of those words has the great sea of waving corn steadily advanced through the fertile valleys of the States. It is still advancing, and will advance. We cannot resist it. We must accommodate ourselves to the circumstances as well and as quickly as possible, taking the tide at its turn. The transition state will be tedious, and fraught with loss and suffering to many, in various classes of society, and it will be imperative that all concerned should endeavor to use mutual forbearance."

These facts are full of significance to the American farmer. The United States is now the granary of the world, and wherever wheat is wanted, there the hungry look to us for a supply. The surplus of America goes to fill all deficiencies in Europe. What we have to do is to cheapen our product, so as to enlarge our profit or enlarge our products without increasing the cost per bushel, which is the same thing. To retain a hold upon the markets we have captured, we must do this.

Useful Hints.

MICE IN HOTBEDS.—When mice get into frames, as they often do, they produce a fearful amount of mischief in a few days, if not destroyed. This may easily be done by mixing sugar and butter or lard smoothly together, in which a little strychnine is incorporated; spread this on thin slices of bread, and cut in small cubes and distribute them among the plants, and at the same time place vessels of water in some convenient place, where they may drink. Or if preferred, the phosphorus compound sold by druggists for this purpose may be used, but we have always had the best success with the first-named mixture. In either case care must be taken that the children do not have access to the prepared bits of bread.—*Canada Farmer*.

WHITEWASH FOR A SMOKED CEILING.—For the first coat mix to every two quarts of whitewash one cup of fine sifted ashes. This will prevent the smoke from striking through. After this another coat may be put on in the ordinary manner.

HARNES and other articles of leather that are injuriously acted upon by the ammoniacal exhalations common in stables may, according to Prof. Artus, be thoroughly and effectually protected by the addition of a little glycerine to the oil or blacking with which their surfaces are treated.

STRENGTHENING SACKS.—A German paper recommends the following recipe for making sacks stronger and durable: Take a proportion of two pounds of oaken ashes to two and three-quarter gallons of boiling water; let the mixture boil for an hour and pour off the liquid, in which the sacks are to be soaked 24 hours. It is said that this process "tans" the vegetable fibres in the sacks, just as hides are tanned.

The Dairy.

Jersey Cattle.

The following account of this breed will serve to continue the series of sketches of the adaptation to the dairy of the several races of cattle, to which, in preceding numbers of the present volume considerable space has been given. It is from the *New York Butter, Cheese and Egg Reporter*—a newly-established journal devoted to Dairy products.

The Jerseys have grown rapidly into favor within the last twenty-five years. Gentlemen in and about cities, keeping but one cow to furnish milk for family use, have given Jerseys—sometimes called Alderneys—the preference over all other breeds, and wisely so if quality and not quantity of milk be desired. They were first imported into the United States about fifty years ago. Within the last twenty-five years they have been largely imported into New England, especially into Massachusetts, Rhode Island and Connecticut; also in eastern New York, New Jersey, Pennsylvania and other Atlantic States. They are now extensively bred in the Eastern and the Middle States. Dairy men engaged in butter making who feel unable to purchase thorough-bred Jersey herds are buying pure-bred Jersey bulls and raising half-bloods,—thus improving the quality of the butter made from these crosses, raised from what are called native herds of cows. There are now dairy herds in the Eastern and Middle States, thus bred, that closely resemble thorough-bred herds, the yield of milk of the former usually being larger than that of the latter, while the butter made thereof can hardly be distinguished from what is called pure Jersey butter.

In form the Jersey cow is deer-like in appearance, small in size, the colors most common being light red and white, brown and fawn. Tastes of breeders vary as to color. The most popular in England are the whole-colored, dark or light fawn,—the latter being deemed by some, however, as the most aristocratic. The first imported Jerseys into New England were fawn color with tawny ears, and were called Alderneys.

The outline history of this breed of cattle represents the Jersey cow in 1789 as superior then to any other breed; and accordingly an act was passed by the local legislature prohibiting the importation into Jersey of any cow, heifer or bull, under heavy penalties. It was some time ago discovered, by experiment by a farmer in France, that the milk of the Jersey makes superior cheese as well as butter. It was found that the milk necessary for a pound of butter would make a pound and a half of cheese. From the milk requisite to make a cheese weighing twenty pounds, the whey on being churned made four pounds of butter of superior quality for pastry making, is of an agreeable odor, and is suitable for various culinary purposes. The cheese was equal to the richest double-Gloster of England. It is claimed that the richest milk and cream are produced by cows whose ears within have a deep yellow orange color. Some of the

best milkers give twenty-six quarts in twenty-four hours, and fourteen pounds of butter a week. It is called a good cow that gives twenty quarts daily and ten pounds of butter a week.

It is claimed by dairymen of experience for the Jersey cow that she produces the largest amount of rich, highly-colored cream from a given amount of food, of any breed known. A late record of a Jersey herd of fourteen cows, in Massachusetts, represents the average yield per cow for 1876 at 5,626 pounds, 2,616 quarts per cow, the largest yield reported was 8,332 pounds per cow; there were two cows of this herd that exceeded 8,000 pounds per cow, and three more that exceeded 7,000 pounds each. There is the record of a Jersey cow imported into Massachusetts, known as Flora, color fawn and white, whose milk made 511 pounds and two ounces of butter in fifty weeks, an average of ten and one-fifth pounds per week, the cow not having been forced in any way. Winter or Summer; she had only ordinary feed. The milk of Pansy, a Jersey cow in Connecticut, was trustworthily reported in the *Boston Cultivator* as having produced 574 5-16 pounds of butter in one year. It is recorded of a Jersey cow in England that her milk made nineteen pounds of butter a week for three successive weeks, a fact deemed so extraordinary as to be entitled to a record in the parish books. A breed of cows with such possibilities is justly entitled to the fostering care of dairymen, especially butter-makers, for it has been found that in proportion of one Jersey to six other cows, the butter is so improved as to sell in the market from six to eight cents a pound and upwards more than it commanded before the introduction of the Jersey.

The Jersey breed of cattle ranks high now among the favorite races of cattle, especially so in the estimation of gentlemen who keep but one cow, and of dairymen living near cities and large towns, who sell fresh butter from the churn, delivered weekly or oftener to families, first-class restaurants and hotels, at prices ranging from fifty cents to one dollar a pound.

Holstein Cattle.

Mr. Gerrit S. Miller, whose paper on these cattle was given in our May issue, writes us that they are gaining favor rapidly, and are sure to be favorites with dairymen in the country. He also sends us the milk record of his cows of that breed, from which we take the following:

	Largest daily yield, lbs.	Largest monthly yield, lbs.	Largest annual yield, lbs.
DOWAGER...	62½	1,565	12,681½
CR. PRINCESS	76	2,081	14,027
FRAULEIN...	70	1,873	8,588

Topsey, before she was two years old, produced 40½ lbs. of milk in one day.

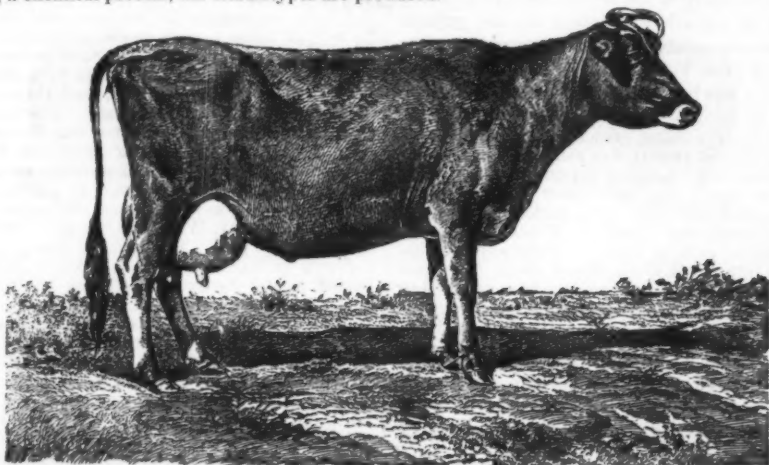
Snowflake (2½ years old) produced 10 lbs. of butter in one week.

Five heifers (calving at 21.8 mos. of age) produced, during their first season in milk, 4,720 3-5 lbs. of milk per head.

Cows (calving in the Spring) are fed 6 quarts of grain per day until pasturage is good, and 4 quarts per day during fall and winter. When calving in the fall, they are fed 8 quarts per day until turned out to pasture. During June, July and August, they have nothing but pasturage.

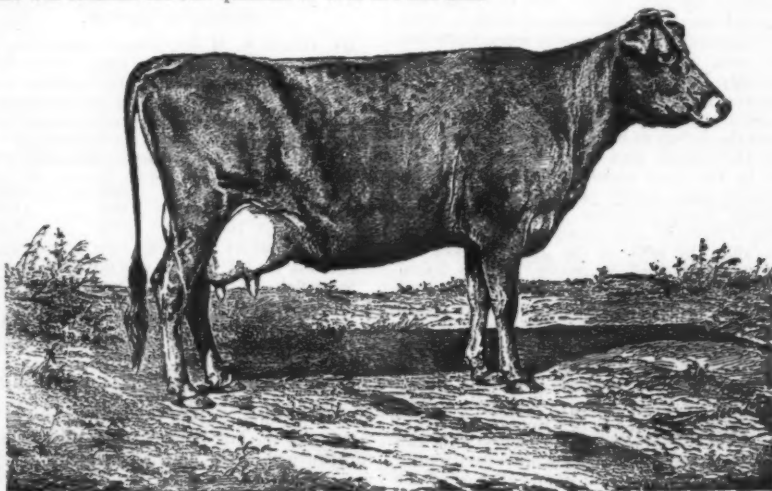
Centennial Prize Jerseys.

The two engravings we give are portraits after photographs from life of two of the four cows, which, with the bull Cheltenham Duke, took the herd prize of \$300 at the Centennial Exhibition in Philadelphia last year, and are the property of Mr. Charles L. Sharpless of that city, one of the earliest and most successful breeders, as well as a most enthusiastic admirer of these cattle. That gentleman writes us that the photographs are taken from life; an accurate sketch is then made of the photograph and a negative of the sketch shown upon a prepared plate, from which, after undergoing a chemical process, the electrotypes are produced.



JERSEY COW "MILKMAID"—A. J. C. C. H. R., 3,958.

Milkmaid is a solid mouse color, running into tawny; long and low, with a large body; small crumpled waxy horns; square udder; black switch, muzzle, &c. A test of her milking qualities proved her one of the largest yielders of milk among Jerseys. Her largest recorded product in one day is 21 quarts, 1 pint; and for seven days, 143 quarts,—she being on grass, and fed, besides, two quarts per day of ground oats. As a butter-maker she falls below this high standard; the week's yield of butter being but 11 pounds, 3 ounces. Mr. Sharpless remarks, in this connection, that this comparatively small product is not creditable for the solid-colored cow, and that he has tried to recall any case of a large yield of butter *except from parti-colored cows*. He thinks also the yellow skin on the inside of the ear is a safe guide as to the butter quality. In this respect Milkmaid is deficient, and she has been bred to Cheltenham Duke, who has a rich golden skin, in the hope that the produce will combine the best qualities of both sire and dam.



JERSEY COW "BLACK BESS"—A. J. C. C. H. R., 1,783.

Black Bess, whose portrait is given above, is another notable example of a fine substantial cow. Her record shows her product to be 16 quarts of milk per day.

Berkshire Swine.



Having given, in recent numbers of the *American Farmer*, engravings and descriptions of several of the best-known breeds of swine, we now present a cut of a trio of celebrated Berkshire sows, the representatives of a Maryland herd of these fine animals.

Lady Plymouth 1st, 2d and 3d were the prize-winners in their class at the Centennial Show, and the enterprise of their purchaser, Mr. A. M. Fulford, of Belair, Harford county, Md., deserves recognition and success.

That gentleman writes us as follows concerning these pigs:

"The engraving is a fair representation of the photograph of the pigs, which is an excellent likeness of them; but, of course, does not do them full justice because they have many good points that cannot be shown in a picture, but can be seen in the animals by changing one's point of view. I purchased them from Mr. Cooper, paying him \$1,000 for the three,—not because I thought them a good investment to turn into pork; but because I considered them, in point of breeding, general make, and individual excellence, the very animals I needed to produce me first-class pigs not to be excelled by any in the market. The more experience I have in these matters, the more I am convinced that it pays well to buy the best. The additional first cost is nothing compared with the benefit to be derived from the good qualities thereby obtained. These sows, as shown above, were a first-prize winning pen at the Centennial,—being imported especially with that view, and selected to show as a trio, from some 300 animals, purchased from the best breeders in England. Mr. Cooper, from whom I bought them, in his letter to *The Country Gentleman*, dated Feb. 22, speaking of these sows and one of my imported boars, (Smythe-to-Wit, winner of the first prize at Swindon, England,) says: 'They should be an honor to be owned in any herd in America.'

"These sows are noticeable for their lightness of bone and offal parts; for extreme shortness and dish of face. Their ears are very fine, short, nicely pricked, and set wide apart. Their backs and hams cannot be excelled. For rapidity of growth, early maturity, and ability to lay on flesh and produce the maximum quantity of it, from any given amount of food, they can be especially recommended. On account of their lightness of bone and offal, the Berkshire will, we believe, equal if not surpass any other breed in the number of pounds of dead in comparison to live weight.

"The boars are especially recommended not only for breeding thoroughbreds, but also for crossing on unimproved stock. Such being the advantage gained by the latter that we have frequently known hogs so crossed, and showing Berkshire characteristics, bring at the scales half a cent per pound, live weight, over the common stock. My other stock is considered, in breeding and general quality, fully equal the above-described animals."

By his advertisement, elsewhere in this issue, it will be seen Mr. Fulford offers for sale some of the product of these and other sows.

Management of Swine.

Mr. Geo. W. Jones, in an address before the Iowa Stock Breeders' Association, said:

"Clean mud is necessary for swine, and I say 'clean mud' to bring out more fully the common neglect which leaves swine to wallow in their own filth. Naturally he is very cleanly in his habits, even more so than any of our domestic animals, and never voluntarily defiles his bed with his own excrements. But he must have

mud, and if he can't get it in any other way, he will make it.

The writer kept Berkshire swine three years, and tried to carry out these views, and he is happy to say that he never lost a single pig by sickness, and among all his breeding sows he never had an unnatural mother. He had a large wood pasture, with abundant sheds and water, and kept his stock constantly in it, save only a week or two at farrowing, and even for that some of the best and strongest litters were dropped in secluded places chosen by the sows themselves in

the pasture. The stock was no less docile because running at large, and not unfrequently he has been quite surrounded by the sows, lying down around him, asking to be scratched, and grunting their satisfaction. Of course there was always the greatest kindness in their treatment. There was always abundant and varied diet furnished, so that they did not have to work for a living, and grow long-snouted and leggy by their labors, but well fed and happy; they took their daily constitutional exercise, and turned over many an acre of turf with their aristocratic noses, in their amusements, thus occupying their minds profitably, and improving their health. They got pure air, exercise, fresh water, clean mud, a few toads, all the snakes, innumerable grubs and worms, rotten wood, grass and fresh earth, with all the delicate tidbits it contains.

The Profitable Breeding of Horses.

The turf reporter of the *New York World* has the following in that paper:

As a turf reporter it has long seemed to me that nearly all the State and county agricultural societies have been somewhat neglectful of their true interests, and instead of encouraging the breeding of useful animals in their immediate districts by offering encouraging premiums for young stock, brood mares and stallions, they have offered a few cheap medals, with little or no attention or accommodation to exhibitors or the exhibited. At the same time they have paid too much attention to the trotting of a lot of worthless geldings, which for any real use were not worth their shoes. Instead of risking so much money on "exhibitions of speed," the societies should buy a half or quarter Hambletonian stallion, or a thoroughbred stallion—the get of Lexington, Australian, or in fact any well-bred stallion—possessing bone and substance, with good trotting action if a trotter—a horse with intelligence, that would at once win the eye, and if necessary pass the inspection by a German or Russian Government inspector.

Any association adopting such a course, with the presumption that the horse would be in the hands of an honest, capable man, devoted to his business, would in a few years introduce a new source of wealth to their members,—instead of their mares, as is now often the case, dropping worthless colts and fillies, possessing neither shape nor strength, and often inheriting diseases rendering them at five years old only fit to drag out a miserable existence in a brick-yard. Such an association would accomplish at least one object for which it was organized. Not only would the members of the association benefit by the services of their stallion, but new interests would spring up in the vicinity. Every breeder would naturally endeavor to show the best stock, and in course of time "horse fairs" would become one of the most interesting spring and autumn holidays. Buyers would be attracted to the neighborhoods that excelled in any special breeds. Some counties would excel in carriage-horses; others in saddle-horses. One would become famous for its chestnuts; another bays, blacks or grays, as Lincolnshire in England is famous for its roans.

A few words more on the subject of stallions. Farmers and breeders cannot be too particular to what they breed their commonest mares. Cheap service by some big, peripatetic, soft-looking brute, with a pedigree that is said to run back for a century or two, should be especially avoided. In fact, it should be made a criminal offence for any man to "tramp" through the country with a stallion claiming a pedigree which is plainly false. But what would be better, in my estimation, is that the several State governments should take the subject in hand. No stallion should be publicly advertised without first having been duly examined by a competent veterinary surgeon, and if any pedigree is claimed it must be vouched for by proper proof, the evidence of which shall be duly set forth in the license that those controlling the stallion shall be compelled to exhibit. No horse should be licensed for such public service that does not come up to a standard to be prescribed by a State agricultural board. Of course the care must not all be on the part of the horse—the mare should at least be healthy, of good size, and properly taken care of at all times.

Shropshire-Down Sheep vs. Merinos.

Without intending to adopt all the conclusions of the writer of the following paragraph as to the superiority of the Shropshires over Merinos, yet of the value of the former for the general purposes of the farmer, we have a high opinion:

"I saw an advertisement in your last paper that attracted my attention as a sheep-raiser. It was said that the Merinos are the standard and best sheep to raise. That I must contradict. I have proved to the contrary myself. Ask some of our Merino sheep-raisers to give the items of what can be made from one ewe in five years. This is the way to get at the proof of this question and show which is the most profitable sheep to raise and which shall be our standard breed to raise.

I say the Shropshire-Down is the champion sheep for wool and mutton, without an exception. I sold my yearling wethers this last summer for \$8 per head to the butcher; they cut 10½ lbs. of wool, which made \$2.50 per head; they netted me \$10.50 per head. They had not been grain ed at all; nothing but prairie grass.

As to the question of wool our manufacturers tell me that the Shropshire-Down wool will make more different goods than any other wool they ever had. It is fine and of a tolerable good length and a remarkable strong staple, which corresponds with the constitution of the sheep. I always have made from five to eight cents per pound more than the Merinos. My ewes cut 16½ lbs. per head. The Shropshire-Downs running on the same pasture as the Merinos, the Merinos will be poor and the Shropshire-Downs will be hog fat, because they are like the Berkshire hog—when they have fed they will go and lie down contented; the Merinos will roam from morning till night and never be satisfied. You can keep more Merinos on the same ground—that I will admit; but put the same amount of capital in, and the Shropshire-Downs shall make a considerable amount per year. They will raise more lambs than any other breed, and will stand the

Kansas storms better than any sheep I have ever seen. Sheep are the main paying stock in Kansas."

The editor of the Nashville (Tenn.) *Rural Sun* makes the following comment:

"This breed of sheep, now becoming popular with our people, is of recent origin, formed by crossing the Southdown upon the Longmynd, an indigenous breed of Shropshire, and the Heath sheep of Staffordshire. These sheep had horns and black faces, grazed well and close, and sheared about two and one-half pounds of wool. After several Southdown crosses, a dash of Leicester was given, which increased the length of the fleece. This breeding was not done by a single breeder, as in the Bakewell sheep, but by several, and there was consequently a lack of uniformity, but by degrees the present type was produced, and in 1860 was recognized by the Royal Agricultural Society of England as a distinct breed.

The Shropshire has a dark brown face and legs, and the wool in centre of forehead and around the ears tinged with brown, larger than Southdown, which it much resembles, and the fleece, which weighs from five to seven pounds, is much longer in staple and heavier than the Southdown, but still a carding wool; there is however a lack of uniformity. In samples taken from last year's lambs the fleece had precisely the appearance of Cotswold wool, while a sample taken from an imported buck of same age, which was nearly as long, was a carding wool, which was much like the Southdown. The meat resembles the Southdown, being marbled with fat but perhaps less delicate. While the Shropshire as a breed are superior to the Southdown in size and weight of fleece, still it is much to be doubted if they will prove equal to the Southdown for improving the common breeds of our country. The Southdown being a very old and perfectly distinct breed, impresses its characteristics with great certainty; the Shropshire being a cross-bred animal, and as most cross-bred animals are superior to either of the breeds from which it is formed, is not so likely to impress its progeny with its own type.

Farm Insurance.

Insurance, without paying a big bonus for salaries of officers and the erection of fine buildings, is a desideratum much to be desired by those who prefer to get the benefit of their earnings themselves. A correspondent of the *Husbandman* writes from Pennsylvania that co-operative or mutual insurance companies are common in his section, the only paid officer evidently being a Secretary, and the property of the company being in the hands of the farmers themselves. Assessments are made only as required to pay losses. He writes:

I am not acquainted with any farm buildings and but little personal property belonging to farmers but what are covered by policies by such insurance. There are now seven such companies in which I could insure. The one to which I belong has property insured to the amount of \$9,000,000, and has been in existence about 35 years. The Secretary informs me that the assessments on its members have averaged in each year 10 cents to the \$100 insured. The following articles give an idea of the work:

ARTICLE 1. The members may enter any or all of their buildings, either with or without the contents. A landlord may enter the buildings—a tenant the property contained in them.

ART. 3 All property, both real and personal, to be valued by the owner, who shall furnish the Secretary with a written description of the property he or she may wish to have insured, with his, or her own estimate of the value of the same, and it is to be subject to all assessments.

ART. 4. All property, both real and personal, may be insured for its actual cash value.

ART. 5. The insurance to be perpetual, and in all cases of loss or damage by fire, the managers appointed by the President shall determine the amount of loss or damage which shall be forthwith assessed on the members, according to the amount stipulated in their respective policies.

ART. 10. The premiums or policies shall be at the rate of \$1 on the \$1,000 insured, after which no subsequent tax shall be levied except to cover actual loss or damage by fire that may fall upon the members of the company.

Companies insure against damage by storms.

Poultry Yard.

By G. O. BROWN, *Manager Poultry Yards, Brooklandville, Baltimore county, Md.*

Young Chicks.

The care of young chicks, is too often neglected, or given over to inexperienced careless persons, and one cannot safely "count his chickens before they are hatched," nor with any degree of safety for some time after. The main cause of all the chicken ailments is vermin (*lice*.) Gapes, drooping and loss of appetite, and gradual wasting away, may be really traced to this very troublesome pest of the poultry yard. Chicks that I have hatched in the incubator never exhibited any signs of gapes; while broods, that were at the same time brought out with hens, had the gapes. One of the best preventives for gapes is to anoint the head of the young chick as soon as it is removed from the nest, and when the hen is through hatching give her a thorough greasing under the wings and tail. The best time to do this for both hens and chicks is at sunset. Young chicks should be fed often, and at each feeding only give them what they will eat up clean; never leave any on the ground they do not eat. Five times a day is not too often for the first four weeks, and as they begin to forage on their own account their feeds will be ample. Give first pure water always when you feed, and empty out all that remains after their thirst is quenched, so none may be left to heat in the sun. Corn meal should always be mixed with scalding water; it not only goes further, but is more nourishing. Our experience has been, that if the feed is scalded there is very little danger of having gapes among your chicks. We have known chicks being lost by the score, where meal was mixed with cold water, but on mixing with scalding water the trouble was remedied. It is well worth trying. The food should be mixed so it will crumble readily, and fed on clean earth. The coops should be moved every other day to new ground. Give a variety of food as much as possible. As the chicks get older, cracked corn and wheat screenings can be fed.

G. O. B.

Leghorn Fowls.

The question is often asked, "which breed of fowls do you deem the best?" The question thus propounded is difficult to answer. Best for what purpose—eggs alone, or for table fowls, or both combined? Many would no doubt like to have the kind that are best for table and eggs. The breed, however, to fill this bill would be as difficult as a combination of the best butter-producing Jerseys



and beef—expecting to secure both in one. That there are breeds of poultry that are recognized as superior layers, is a well-known fact; and that the Leghorns stand at the head of the list, is also an established fact, while as table fowls they produce juicy, rich meat of a decidedly tempting or attractive color and flavor. There are four varieties of Leghorns: Brown, White, Dominique and Black, and their laying qualities come in order as named. No other breed feathers as quickly as Leghorns,—Houdans excepted. The young cockerels will crow when eight weeks old, and are completely feathered so young, they appear strutting around, to one not thoroughly acquainted with them, to be Bantams. The brown and white varieties are wonderful egg-producers; perhaps the brown will lay a few more eggs in a year than the white. We have had hens that averaged (of both these varieties just named) 236 eggs in twelve months. The eggs will weigh eight to the pound—which would be a production of 30 pounds eggs to each hen, or about five times their weight, or in other words at 20 cents per dozen the eggs

from a single hen would annually be worth nearly \$4. My experience has been that if kept in warm winter quarters, they will lay more eggs in winter than, any breed I have ever kept. A writer in one of the poultry publications, who has had several years experience with Brown Leghorns, says: I will say that, in my experience, a larger per cent. of the eggs set will hatch, and a larger per cent. of the chicks hatched will come to maturity, under the same care and treatment, than from any other breed that I know anything about."

Through the kindness of the "*Fanciers' Journal*" we are enabled to give an illustration of a brown Leghorn cock. The plumage of this variety of Leghorns are nearly identical with that of the Black-breasted Red Games, which, with their large showy combs, renders them a very attractive fowl. The chicks when first hatched are marked much like young partridges, having along the side and back stripes, and a brownish one in centre, and where these stripes join, the color is nearly the same as that of the mature fowl. As they commence to feather, the wing (primary and secondary feathers) exhibits a darkish slaty brown, the feathers at the end having a light spot, which makes them appear dotted-like. The Brown Leghorn crossed on the Partridge Cochins produces a handsome fowl of quick maturity, excellent size, good layers and mothers, which fatten very easily.

Montevue Poultry Yard, Brooklandville, Md.

G. O. BROWN.

Work for the Month—June.

The increasing ardor of the sun promotes not only the growth of cultivated crops but also of those other crops, requiring no less attention and labor, of grass and weeds. Perpetual war without truce is the only way of escape from their sway, and especially true is this of

The Corn Crop.—Shallow workings of the ground to keep the surface porous and to destroy the weeds and grass are in order, and should be promptly attended to, and so frequently that the culture may be done with before the corn tassels. Thin out as early as possible after you are reasonably sure of a stand; and see that re-planting when necessary is done at the earliest moment.

Potatoes.—About the middle of the month, in most cases, in this section, is the best time to put in the main crop. Planted earlier, the tubers should be forming just at a time when the usual

summer droughts are apt to prevail. Essentials to success are a good soil and complete preparation. Land in which there are abundant vegetable remains, like an old sod, or newly cleared ground, is always best for the crop. Bone, ashes, salt and plaster are favorite artificial manures. Plant as soon after opening the furrows as possible, and begin the cultivation as soon as you can, that the soil may be kept light and clean.

Tobacco.—As a rule, the earlier plants are set out the better, and the lighter is the work; besides, the plants grow off better, and the losses are far less than when the ground becomes hot from the ardent summer suns. It is essential, therefore, to have the ground as early as possible in the proper condition,—it being kept in view that the first condition of the plants growing off finely is its being in thorough tilth. Do not hesitate to use the harrow and roller again and again to attain this. At the first hand-working be vigilant to destroy everything like grass or weeds near the plants.

Root Crops.—A fair crop may still be reasonably counted on, in an average season, of Sugar Beets and Mangels if they are sown at once, and we refer to late numbers for some directions as to their culture. Carrots, too, may still be sown to advantage if the land is of promising fertility and in good condition. Ruta Bagas are very easily grown, and are extremely serviceable as feed for almost every kind of farm stock. In this latitude they are sown from the 20th of this to the middle of next month, the earlier sowings being preferred as giving opportunity for repeating if the fly destroys the plant. A rich loamy soil, with considerable sand, is probably the best for these roots, but they do fairly upon almost any well-prepared ground in tolerable heart. Where fertilizers require to be applied, bone-bust, super-phosphate and ashes are good. The seed should be sown in rows about 30 inches apart, and the plants thinned so as to stand about 10 inches in the drills. Sow the seed as quickly as may be after the ground is prepared, as they germinate sooner from contact with the moist soil and escape damage by fly, from whose attacks they are safe as soon as they reach their rough leaf state. If this pest does appear a dusting over the plants, when wet with dew, of ashes and slaked lime, or plaster, will stop their ravages.

In the event of vacant spaces in the rows, they may be filled by transplanting. The working of the rows should begin as soon as the plants appear, and the surface should be kept light and open,—the hoe being used between the roots until the leaves interfere.

Fodder Corn.—Up to the 1st of August successive crops of this may be put in. What is not wanted to supply the deficiencies of the failing pastures in August and September, will be equally as useful cured for winter. Sow in drills as heretofore advised, and run the cultivator two or three times through the rows during its growth.

Millet and Hungarian Grass.—Sow these at once, or at any time onward. They will be found convenient either as green forage or made into hay. About a bushel of seed of each is the sufficient quantity to sow to an acre. The German millet seems increasing in favor and deserves a trial by those who have not sown it.

Buckwheat may be sown towards the end of this or in next month, whether designed for grain or for turning under as green manure. The soil it prefers is a rich loam containing a good deal of sand; but stiffer lands will bring a crop if they are in good tilth. Thoroughly rotted barnyard manure is a good application for this crop, and so are the super-phosphates. Two to three pecks of seed to the acre is the usual quantity.

Clover and Orchard Grass.—Both should be cut as soon as possible after they are fairly in bloom. The less they are exposed to the hot sun and air the better for both. Clover should not be long in the swath. Some rake it into windrows, let it remain a few hours and house. Others put into small cocks, which they turn over next morning when the dew is off, lightly spread out, then make into larger cocks and secure. Orchard grass should not be allowed to get woody and tough before it is cut.

Meadows may profitably receive, after the crop is cut, a renovating application of a mixture

of bone dust, ashes and plaster, or a hundred or two pounds of super-phosphate, or a dressing of well-rotted compost.

Grain Harvest.—See to it that machines, hands, stock, provisions, &c., are ready in time, so that you may begin cutting at the earliest possible hour.

Horticulture.

Maryland Horticultural Society.

The May Exhibition was held in the Concert Hall of the Academy of Music, and was highly successful, though the prevalence of a thunder and rain storm during the early part of the evening diminished the number of visitors. This show was held in connection with the first of a series of garden concerts given at the Academy, which was decorated and brilliantly lighted in every part, and this fact added very largely to the usual attendance.

The display of plants was large, exceeding the capacity of the spacious and beautiful Hall, and many tables were too much crowded by necessity to properly display the symmetry and beauty of the specimens they bore. The cut flowers and designs were less abundant than at some previous shows, but the profusion of blooms of hardy shrubs rendered less noticeable the omission.

Among the exhibitors were Wm. Fraser, the Superintendent of Patterson Park, Baltimore, whose collection of handsomely grown, healthy and vigorous plants was much admired by all who inspected them; John Feast, the father of the floricultural trade in Baltimore, had his accustomed display of plants of rarest form and flower, and his heart warmed over his pets as he imparted to hundreds of inquiring visitors the virtues, history or habitat of the individuals making up his collection. Mr. Feast set a praiseworthy example to other exhibitors in having every plant *conspicuously* labelled, so that every passer-by could read the botanical as well as the popular name, when the latter was possessed by the rather unique specimens shown. Amongst these were noticeable the *Strelitzia spathulata*; *Agave filifera*; a fine specimen of *Euphorbia splendens*; a profusely-bloomed *Clematis Standishii*; *Araucaria*; the night-blooming *Cereus*; *Ophiopagen marginata aurea*, &c. James Pentland exceeded even his usual exertions to make a fine display, and filled, and over-filled, indeed, one long table running across the entire hall, and another on the side, with Ferns, Roses, *Pelargoniums*, *Begonias*, *Hydrangeas*, a magnificently-bloomed *Cleodendron Balfourii*, *Agaves* and *Dracenas*, *Calceolarias*, &c.; Robt. J. Halliday deposited fine *Fuchsias*; Andrew Patterson, Roses of handsome growth and in profuse bloom, *Fuchsias*, *Verbenas* and *Petunias*; Archibald Brackenridge, *Amaryllis* and *Petunias*; W. F. Massey, *Verbenas*, *Petunias*, *Geraniums*, *Fuchsias*, &c.; Chas. Hamilton, *Petunias*, *Geraniums*, *Hydrangeas*, *Chrysanthemums*, &c.; Wm. Fowler, finely-grown *Pelargoniums* and cut flowers; Chas.

Bucher & Bro., Ferns, Cactus, &c.; Robert Patterson, rustic stands, of very pretty construction and neatly filled with vines and plants; Wm. D. Brackenridge had some fine Rhododendrons, an unusually large collection of Tree Paeonias, and a display of blooms of hardy shrubs.

Wm. H. Perot made a fine exhibition of Ferns, Geraniums, Begonias, Rhododendrons, hanging baskets, &c.; Mrs. Isabella Brown had very superior Calceolarias; Ernest Hoen, a general collection of plants; Ezra Whitman, Geraniums, Mahernias, &c.; August Hoen, flowers of hardy shrubs; R. W. L. Rasin, foliage plants, Begonias, Vegetables, &c.; John Cook deposited a very handsome basket of cut flowers, and a floral design; Miss Mollie Strawbridge had a basket of vines and flowers; Jno. E. Feast had another entered only for exhibition, not for competition, but it was specially noticed by the judges. Master Chas. L. Kemp had Pansies.

AWARDS.

The judges, Messrs. Wm. Fraser, Wm. Fowler and J. Mowton Saunders, made the following awards:

For best 6 sub-arborescent Begonias, \$3, R. W. L. Rasin; best 6 Fuchsias, \$3, R. J. Halliday; Petunias, best 6, \$2, A. Brackenridge; highly commended, Andrew Patterson and James Pentland; best 24 Pansies, Chas. L. Kemp, Jr.; Verbenas, best, \$2, highly commended, Andrew Patterson; best 12 Roses, in pots, \$3, Andrew Patterson; Zonal Geraniums, best 12, \$3, Wm. H. Perot; special premium \$3, Ernest Hoen; highly commended, James Pentland; best 6 double Geraniums, \$3, Wm. H. Perot; Variegated Geraniums, best 6, \$3, James Pentland; highly commended, Wm. H. Perot; best collection of Greenhouse Plants, one-half in bloom, \$5, John Feast; and special prize of \$5, divided between James Pentland and Wm. H. Perot, both of whose collections were considered eminently and equally meritorious; best 6 Ornamental Foliage Plants, \$3, R. W. L. Rasin; Rhododendrons, best 6 in bloom, \$4, W. H. Perot; special commendation to Wm. D. Brackenridge; best collection Calceolarias, \$2, Mrs. Isabella Brown; best collection Cinerarias, \$2, Jas. Pentland; Hardy Flowering Shrubs, best 12 cut blooms, in variety, \$2, Wm. D. Brackenridge; for same, certificate of merit to Aug. Hoen; best pair Hanging Baskets, \$2, Wm. H. Perot; best arranged basket of cut flowers, \$2, John Cook; special mention for one of Miss Mollie Strawbridge; best Table Design of cut flowers, \$4, Jno. Cook; best Rustic Stand, filled with plants, \$2, Robert Patterson; best 12 stalks Rhubarb, \$1, 6 heads Lettuce, \$1, and best collection Vegetables, \$3, R. W. L. Rasin.

DISCRETIONARY.

The collection of flowering and foliage plants of Ezra Whitman, and that of German Iris of August Hoen, were commended. The Pelargoniums of Wm. Fowler, gardener to the Johns Hopkins University, were noted as worthy of high commendation, especially the varieties Queen Victoria and Captain Raikes. To Wm. Fraser, Superintendent of Patterson Park, was awarded a Certificate of Merit, the first one issued by the society, for his display of plants, in robust health, handsomely grown and correctly labeled, their neat and cleanly appearance and the abun-

dant bloom of the flowering sorts being well adapted to promote a taste for such objects from the fortunate position they occupy in a place of great resort by the public. To M. Perine & Sons, special mention for a large and effective display of garden vases, pots, &c. Special commendation to Wm. D. Brackenridge for a large assortment of new *Paeonia Montana*. A basket of cut flowers by Jno. E. Feast was noted as remarkably graceful in effect and of chaste design.

Norfolk (Va.) Horticultural Society.

The May meeting of the Society was held at the Mayor's office on 19th,—G. F. B. Leighton, President, in the chair. After some preliminary proceedings, relative to the exhibition on the ensuing week, a copy of which has been furnished for the *American Farmer*, the President read his report, in which he remarked:

"In reply to the numerous questions as to the cause of continuation of the dropping of pears, I would say that while the long-continued low temperature may have had something to do with it, yet there is unmistakable evidence that the terrible gale caused the greater portion of it.

In answer to another question, "What is the best fertilizer for the pear tree?" will say, I was so much pleased with the results of clover among my largest pear trees that I decided to place another section in clover about fourteen months ago. I prepared the soil with muck compost among twelve rows of trees. I then sowed one bag of 200 pounds Leopoldshall Kainit in nine rows, and one-and-half barrels of good wood ashes in three rows. I find the clover decidedly better in the rows where the Kainit was sown than where the ashes were sown. In my opinion we shall find the chemical ingredients of this fertilizer well adapted to the pear, which calls more largely for potash than most other trees.

Fruit trees will bear more salt than is generally supposed, and if judiciously applied would probably lessen the scourge of blight, which is much aggravated by the application of stable manure.

I am sorry to remark that within a few days blight has made its appearance in many orchards. The knife and saw should be vigorously used, and apply a wash of carbolate of lime; also try boiled linseed oil. I think the sudden change from a low temperature to this hot spell is the principal cause.

We are on the eve of testing the horticultural pulse of this section.

All societies having in view like objects of our own, make a first trial at exhibition of fruits, flowers and vegetables, and frequently find themselves in advance of the public taste. This can only be ascertained by an actual test.

This is purely a home enterprise indicating our status in floriculture, particularly in the Spring, when the only fruit in season is the strawberry.

Will the community make it a success?

The professional florists have generously left all competition for prizes among the lady amateurs, but contributing to the beautifying of the

tables. It is safe to make this first effort on an unpretending scale, and, if favorably received by the community, our Fall exhibition can be made much more attractive, when we can laden our tables with fruits.

Nature has thrown around us a rich floral field, a home for the rose. Let our tables be decked with Flora's rarest gems.

The object of the Society is now the advancement of floral taste, and the concentration of horticultural and pomological experience, rather than the increase of its treasury.

[We have reason to anticipate the active co-operation of this and other associations in Virginia, in behalf of the National Pomological Society meeting in Baltimore in September next. *Eds. A. F.*]

Potomac Fruit-Growers.

Editors American Farmer:

Dr. George Gross, at the April meeting, read a paper on "The Preservation and Utilization of Fruits." The points of general interest were as follows:

It is a well-known historical fact that the renowned Hypocrates, in his treatment of the action of the terrible plague of Athens, made great use of the rich wine of Naxos; and his treatment was a success! What was the character of these wines? They were like the other wines of the ancients—the pure juice of the grape.

A few authorities will confirm the statement. Aristotle, born 384 years B. C., says: "The wine of Arcadia was so thick that it was necessary to scrape it from the skin bottles," and which was diluted when drank. Columella, cotemporary with the Apostles, says: "In Italy and Greece it is common to boil the wines." Boorehave says: "By boiling the juice of the grape it loses all its aptitude for fermentation, and may be kept for years;" and the authorities are numerous on this point.

Such, doubtless, was the wine which Paul commended to his son Timothy, to take for his "stomach's sake," and not the poisoned whisky wine of commerce; and the "strong drink" which was administered to those "ready to perish," was not a vile compound, made of strychnine whisky, fusil oil, oil of vitriol, aqua fortis, prussic acid, pepper and tobacco, such as Dr. Cox found a cask of "Seignette" brandy to be on analysis of the contents. No; but, according to the custom of the ancients, it was hot, unfermented wine, with the addition of ginger, capsicum, or some other anodyne, tonic, or stimulant.

My wines are treated as follows: Press out the juice from the crushed grapes; then add one-fourth as much water as there is juice to the pomace, and press again into the same vessel. The water causes the juice to settle or filter more readily. When settled, boil the juice in a stone, glass or porcelain-lined kettle; set in another kettle containing water, down to one-third of the quantity of the juice first pressed out. To each quart of this syrup add a tablespoon of salt. Bottle, cork, wire, and set in a cool place. It will keep.

In the same way wines may be made from the various fruits and melons; and wines thus prepared are a delicious, nutritious and wholesome beverage. When used, dilute with water from four to six times the amount and sweeten to taste.

"Fruit butter" may be made in a similar way from fruits and melons; and the choicest "jelly," by adding a pound of sugar to each quart of the unwatered juice, and boiling as above. "Tomato catsup" is made by rubbing the fruit through a colander, seasoning to taste, and boiling down two-thirds, to be reduced when desired for use.

The refuse of the various processes will make the best of vinegar.

During the discussion which followed the reading, in answer to a question as to the best fruit dryer, the secretary said: "Probably the Reynolds Fruit Evaporator," improved by Messrs. Coleman & Son of this city.

G. F. N.

Washington, D. C.

The Pomological Society's Meeting.

Great interest appears to be manifested in the approaching session of this society. Preparations are making here, and, with great promise of success, for the accommodation of a large attendance of visitors and an immense display of fruits. It is stated that Mr. Fox, of California, will have his wonderful collection of seedling pears; Mr. Ricketts, of Newburgh, New York, writes us that he will exhibit his grapes, and from every side we hear of preparations being made for what it is hoped and expected will be one of the most successful meetings of this noble society. We are glad to learn that the health of its venerable president has so much improved that there is every hope of his being able to preside. The following note from him will show the interest with which he follows the work of preparation for the meeting.

BOSTON, May 22, 1877.

TO WM. B. SANDS, Esq.,

Secretary Maryland Horticultural Society.

MY DEAR SIR—I notice by your periodicals, which I have the pleasure to receive, that your people are alive to the importance of the great Pomological meeting in September. True, it is the American Pomological Society covering our continent, should receive as it has done in every section the consideration it demands. No similar institution in the world has done so much for pomology, or has such opportunities for progressive development. Let us therefore give it scope commensurate with the importance of its mission. To this end I trust that you will see that your *Farmers* and other papers will exert every effort to make the occasion one of marked significance to the cultivators of fruit throughout the union. Especially let the South come up in full force—the North will not hold back and the great West will pour out from its horn of plenty an abundance to grace the occasion.

Yours, as ever,

MARSHALL P. WILDER.

The Apple.

ETYMOLOGY OF THE WORD—ITS ORIGIN AND
ANTIQUITY—THE WILD CRAB APPLE OF VA.

Messrs. Editors American Farmer:

The etymology of the word apple is very remarkable. It is curious to note its similarity as used in different languages. The common root, *ap, ab, or ae*, is generally preserved in them all. According to different authors *abhal*, (Celtic;) *aval*, (Welsh;) *avall*, (Armonic;) *aepple*, (Saxon;) *appel*, (Dutch;) *apfel*, (German;) *aeble*, (Dan;) *abhat*, (Irish,) and in other languages.

We have no authority whereby we can describe the allegorical apple of Paradise. The golden apples of the garden of the *Hesperides*, "who dwelt beyond the bright ocean," were doubtless oranges, instead of apples like ours; yet, among the various fruits that grew in this orchard, the apple might have been included. "Their garden was filled with fruits of the most delicious kinds."

We cannot be positive from history that the apples cultivated by the ancients were very similar to our own, the description of fruits by old Latin authors being brief and indefinite. In the Scriptures we find, "Stay me with flagons, comfort me with apples"—and, "A word fitly spoken is like apples of gold in pictures of silver"—and again, "As the apple-tree among the trees of the wood, so is my beloved, &c." This poetical reference is, probably, to the wild crab-apple of Palestine, the land of valleys and hills, that produced in abundance, wheat, barley, vines, pomegranates, figs, &c. Doubtless the wild apple was common, and, very probably, the improved apple was cultivated in the days of Solomon. The ardent sun of this region, however, precludes the idea of a fine apple country. According to Tacitus, "The soil is rich and the atmosphere dry."

In modern times *Linnaeus* considers the apple and the quince as a species of pear-tree, or *Pyrus*; all the varieties of which he says are hardy and will succeed in any common garden soil. Apples and grafting were common in Shakespeare's times, three hundred years ago; as witness Justice Shallow to Falstaff: "You shall see mine orchard, where is an arbour we will eat a last year's pippin of my own grafting;" and again, Sir Hugh Evans, in the "Merry Wives of Windsor:" "I will make an end of my dinner—there's pippins and cheese to come." Grafting was known and practiced by the Romans at a very early date.

The native country of the apple is generally understood to be southern Europe and western Asia, where it abounds and grows spontaneously. The native wild apple is also found in England. "This is the parent from which the numerous varieties of the apple are obtained, and on which the better sorts are grafted; because its roots are neither killed by frost or eaten by field mice." Whenever this fruit is found in a mild state it is generally unfit for human food,—being small, sour, or bitter.

The apple by cultivation has become indefinitely various and progressive, producing, in a wild state, the small and a crab; and under high cultivation and a genial climate, such fruit as the splendid Albemarle and Newtown pippins; and varieties are now multiplied to some thou-

sands in the different States, to say nothing of European lists.

The Oregon crab, *pyrus malus ricalaris*, is of the size of a large cherry, of deep red color, and is used as food by the Indians. The *pyrus malus coronaria* is common in many parts of the United States. Cole says: We have seen one kind (wild crab) in New England with small, long, dark red fruit." The Siberian apples or crabs, *Pyrus malus prunifolia*, are of many sorts. They are very hardy, are eatable, and much cultivated in the Northwestern States, where they have been greatly improved both in size and flavor.

None of our cultivated apples originated from our wild crabs, but all are produced originally from those of Europe. It might occupy a long life to improve by culture and careful selection these wildlings, from generation to generation, until the requisite qualities could be secured. If this could be done, we have no doubt hardy and superior stocks for grafts could be obtained.

The native wild crab of Central or Piedmont Virginia may be thus described: "Tree rather small, thorny, close set, spreading top, bark rough, wood hard, works well in the lathe, and is susceptible of fine polish. Fruit flatish, firm; above an inch in diameter. Color, bright yellow when ripe, almost equaling polished brass, and emitting a delightful perfume."

These apples, when protected by fallen leaves, will lie under the trees in a good state of preservation until Spring; and in that state, when preserved in sugar, are considered a delicacy. It was said by the early settlers, that deer were especially fond of this fruit in Winter; but, like the deer, this beautiful tree has almost disappeared in closely settled districts.

The crab-apple is seldom or never found on hill tops, or in valleys, but on borders of forests, and in slightly elevated situations; usually in open, warm, exposures, just where the hill and valley soils meet. *This preference of soil and position may be a hint to us in setting orchards.*

The wild Virginia crab is a highly ornamental tree in Spring, when in full bloom; which occurs about the same time of our cultivated apples. Also in Autumn when loaded with bright yellow fruit. No tree presents a more gay or beautiful appearance when dressed in green, with clusters of large flowers of a most pleasing blush, redolent with fragrance. "The pedals may be compared to white wax faintly tinged with the finest carmine;" though some trees have flowers of deeper tinted red or rose color. J. FITZ.

Keswick Depot, Albemarle Co, Va.

The Vineyard.

The Management of Wines.

Messrs. Editors American Farmer:

Allow me to say that I consider it a waste of space in your valuable *Farmer*, when we commence to discuss the question whether the practice of Gallizing, etc., is right or wrong.

There have been such sharp and hot fights in both this and the old country on this subject, that nothing new is left to be said on it.

No one disputes that choice wines can only be made from pure juices, containing all the ingredients necessary for such in proper proportion,

and consequently the theory may be correct, that only locations ought to be chosen and those grapes planted that will furnish such must; practically, however, this teaching is of very little use, unless we find a way to regulate sunshine and rain.

In all ages the grape-growers have known how to make their wines palatable and pleasant. The old Greeks and Romans not only used herbs to flavor their wines, but also honey to sweeten them; and in later centuries, syrups, sugar and spirits were added, acids neutralized, etc.,—often materials being used directly injurious to the health of the consumer.

Having in our days become more thoroughly acquainted with the elements of wines, there have been laid down simple rules to add or take from must that which only Dame Nature has either furnished in too great abundance, or which is deficient.

Governments at first opposed to the improvement of must and wine, had to admit its entire harmlessness, and had to regulate their laws according to it.

The French government has even legalized the addition of 5 per cent. of spirits to all wines which are to be exported, and on brandy so used the tax is refunded.

Whatever may be said against Gallizing, etc., it is certain that as long as wines are produced, the majority of vineyardists will believe in it and will try to correct the deficiencies of poor grapes and poor seasons, hoping at the same time that the few exceptions who will probably have to drink their sour, over-flavored pure juice wines themselves, will not turn too sour in stomach and mind. In regard to what class of wines we are to make, we cannot be guided by what may suit our individual palate best, but must go by what the general public will prefer to buy. It is not necessary that we try to closely imitate the European wines, as in following the general rules of wine-making, and by mixing the different varieties, we can make wines of a similar character, the flavor of which will at least not be offensive to the general wine drinker.

It is all well enough that we should make a characteristic American wine, but the trouble is that most of our grapes are not up to the European standard, and their distinctive flavor is rather too much of a good thing to most persons. Wines made from the pure juice of well-ripened Nortons, Clintons, Catawbas, etc., will find only few friends, and those grape-growers that have attempted to cultivate the public taste so as to like their wines have soon found it a losing sort of business. When we find a grape that will fill the whole bill, being healthy, productive and making a wine with delicate bouquet and aroma, then we shall be able to work up a name for distinct American wines; but until then necessity mostly forces us to make such wines as will find the most ready sales.

Millions of gallons of native wines are yearly produced and consumed, but very little of it is really drunk under its true name. It would be greatly desirable if a way was found to overcome the prejudice against native wines, but it can only be done by freeing ourselves from prejudices and by assisting nature to furnish a wine that will compare favorably with those of other countries.

Prince William Co., Va. C. A. HEINEKEN.

Virginia and Maryland Grape-Growers' Association.

In the May number of the *American Farmer* I published a letter on the grape and wine question, in which I recommended the organizing of a Virginia and Maryland Grape-Growers' Association—the main object of which would be to operate against the obstacles in the way of establishing a sure and ready market for our wine. In consequence of that proposition I am asked by several grape-growers to take the lead in the matter by calling a meeting of the grape-growers of Virginia and Maryland, to be held during the sixteenth session of the American Pomological Society, and the grand exhibition of the Maryland Horticultural Society at Baltimore, September 12th and 15th, 1877.

Although I consider it desirable to see a man of more influence undertake the task, I concluded, in consideration of the brevity of time to answer the summons directed to me, by inviting all interested in the grape and wine question in the States of Virginia and Maryland to meet at Baltimore, on Thursday, September 13th, for the purpose of discussing the question of the propriety of organizing a Virginia and Maryland Grape-Growers' Association, and eventually organizing the same. The hour of meeting and the locality in which the meeting will be held will be published in the August number of the *American Farmer* and the *Southern Planter and Farmer*.

In the July number of those papers, I will present to my fellow-viniculturists a detailed plan for the organization of the Association, which I intend to lay before the meeting, in order to give them an opportunity and time to think it over, and be prepared to discuss, and either accept or amend it at the meeting.

The great importance of the matter justifies the expectation that a large proportion of the grape-growers of the two States will be present at the meeting; all are welcome, no matter if they are pro or contra Concord, if they favor pure wine, or if they like it sugared or gallized.

Respectfully, LOUIS OTT.

Castle Hill Vineyard, Greenfield, Nelson Co., Va.

[We commend this appeal to the consideration of all wine-growers—there will be representatives from all the States on the occasion.

Eds. A. F.]

—When the joints are stiffened with rheumatism or a settled cold, the following applications are capital, and enable the sufferer to move with ease: Cut into small bits (or grate it) one ounce of castile soap. Add a heaping tablespoonful of red Cayenne pepper. Have these in a small pitcher and then pour on to them half a pint of boiling hot water. Stir until all is dissolved and add a little cider brandy or alcohol when bottling. An application brings the blood in a glow to the joints. Rub a little sweet oil on to relax the muscles.

—We have known some extreme cases of headache cured in half an hour by taking a teaspoonful of finely-powdered charcoal in half a tumbler of water. It is an innocent yet powerful antacid.

Floriculture, &c.—June, 1877.

By W. D. BRACKENRIDGE, Florist and Nurseryman,
Govanstown, Baltimore County, Md.

Now that the hard-wooded and other plants of a robust nature have been removed from under glass to the open air, their places in the conservatory should be occupied with a variety of summer-blooming kinds; and as the charm which the Pelargoniums and Geraniums has afforded is now about gone, the many varieties of the graceful Fuchsia ought to follow in their train—and welcome in the stately Clerodendrums and prim Gloxinias, of which there is an almost endless variety in different shades of color in the flowers; and, as fit companions, are the Gesnerias, Tydeas, Achimenes, together with the many splendid variegated Caladiums and Begonias. To relieve and add to the gaiety of such an assemblage, a few Palms and a number of neat-growing Ferns should be introduced; in fact, a house filled entirely with either Palms or Ferns contains a sufficiency of the elements of beauty to attract the duller of observers. Partial shade and a humid atmosphere are essential elements in the cultivation of plants under glass in summer. Shade can be had by training vines of Passifloras, Bougainvillea, Bignonia,—even Cobia scandens is not to be lightly thought of for this purpose; and to secure humidity syringing morning and evening with soft water will effect the desired end, as well as keep in subjection those pests of the garden—namely, the red spider and thrips—and should this fail to extirpate them, then you might try the effect of blue glass over them!!

FLOWER GARDEN AND PLEASURE GROUNDS.

Almost every one knows what a flower garden means, but to keep one in good order all the year round requires considerable knowledge. It can be either large or small, as the taste of the owner may elect; but the term "pleasure grounds" would embrace the former and something in space of a more extended character, analogous to what is called a park in England—that is, an enclosed tract of land set down in grass, which is kept short, ornamented with trees and shrubbery, and traversed with walks and carriage drives, and to these we would add a bowling green and croquet grounds, not neglecting in retired spots and sites, which command a view of some pleasing distant object, to erect rustic summer-houses. To us these appear most appropriate in a grove of trees; but if they must stand in an open, conspicuous place, then plant well around with Honeysuckles, Virginia trumpet flower, Running Roses and Virgin's-bower: such articles will afford protection to the feathered songsters, and who is it that does not love the warbling throng? Seats should also be provided for the tired pedestrian to rest himself; the locality of such should be shaded, but not near the butt of a tree, as such a position is dangerous during a thunder-storm.

The principal work in the flower garden will consist mostly in keeping weeds down, and the surface of the beds open by frequent hoeings. Some of the plants in the beds and borders will require pinching back, while others will need pegging down to the ground. We find that Dahlias do best in warm weather when kept close to the ground, and we would say that the first

week of this month is a good time to plant them out. Towards the end of the month, Privet and Arborvitae hedges may be trained; and we would shorten all strong growths of Spireas, Wigelias and Deutzias so soon as the bloom is past, which will cause them to make young wood for next year's ornament; to prune them in spring, as we often see practiced, is to cut away the very wood which bears the flowers.

Chrysanthemums from cuttings may now be planted in the open ground, and if they are kept stocky by frequent pinching back when young they will form elegant plants to move into the conservatory in late fall; a dose of liquid cow manure given them once every week will do them good.

W. D. BRACKENRIDGE.

"Soft-wooded Gardeners."

Messrs. Editors American Farmer:

Mr. W. D. Brackenridge in the *March Farmer* speaks of the present horticultural fraternity as "a generation of soft-wooded gardeners;" but if ever this branch of floriculture—the cultivation of soft-wooded plants—were carried to something like perfection more frequently than it now is, there would be some consolation. We doubt, however, if even the most ardent admirer of the present style of floral decoration would claim that we excel even in this particular. Never was greater need of a skilfully-handled, well-supported horticultural society than existed in this State at the time the "Maryland Horticultural Society" had its birth; or we ought, perhaps, to say, was resuscitated. It is certainly highly gratifying to note the increasing interest taken by our citizens in the welfare of the society as evidenced by their attendance at its monthly meetings, &c.

We hope to see the society extend its sphere of usefulness, and if it continues to receive the patronage it deserves it cannot fail to prove highly advantageous both to horticulture and agriculture.

With regard to the culture of soft-wooded stuff, or, rather, the neglect of those subjects which can be grown to perfection only by those having thorough practical skill in the cultural art, we must acknowledge that collections of well-grown, well kept greenhouse and hot-house plants are few and far between. This does not arise, however, through any difficulty in obtaining, under certain conditions, skilled gardeners. No one understands this better than Mr. B. Gardeners must grow whatever is required of them, in the best way they can. It is no easy matter to keep up a full supply of cut flowers, including rose-buds, through the winter, and turn out the quantity of bedding stuff required in the spring in a creditable condition, and that too in many instances from one house, thus having to winter Coleus and Camellias, Orange trees and Heliotrope in the same temperature and conditions. It is easy to understand how little can be done in the way of growing plants fit for exhibition or any decorative purpose, while the stage itself will usually present the shorn-down, over-filled, grown-for-sale appearance characteristic of the commercial florist, whose houses private gentlemen too often take as a model for their own

greenhouses and conservatories, both in the building and the furnishing. These matters will improve as the defects of the existing order of things come to be better understood, and allow me to remark that no one is better qualified to point out these than is your able correspondent, W. D. B. N. F. F.

Prizes at Flower Shows.

Messrs. Editors American Farmer:

In conversation with a distinguished florist from Philadelphia, speaking of the success of our Horticultural Society, and its future prospects, he remarked: "The rock on which most horticultural societies split is that of *professional rivalry* with regard to premiums. Exhibitors, who *imagine* that they have not had justice done them in the award of premiums, get lukewarm, and, after a year or so, cease to exhibit." I find that this same evil is gradually creeping into our Maryland society. I have myself served as one of the judges on several occasions, and the experience gained in those few times, makes me very shy of taking the position; and I find, as a general thing, that members do not like to serve for fear of giving offence to some one or other of the exhibitors.

Exhibitors should remember that the judges are gentlemen, and that any manifestation of discontent is a direct insult, and means that the judges are either unjust or incompetent. Again: though many contend, there can be but one to gain the prize. It is very natural that we should think our own grows the blackest, because we have had all the trouble with them, and we may see beauties in them not apparent to others. I have seen the judges often put to their wits to decide between two or more lots of plants or flowers, going first to one and then to the other, weighing, if possible, their merits. In cases like this, where the difference is not very apparent, the duty of the judges becomes very delicate, and the defeated parties should bow gracefully to the decision, with the hope of better luck next time. *The judges should not fail in cases where the competition has been very close to mention the fact.* This, I think, would tend to soften the defeat. A very prominent case occurred at the April meeting of the society. There were four prominent competitors for the best basket of cut flowers,—exhibited by Messrs. J. E. Feast, G. V. Smith, James Pentland and W. F. Massey. There was no question as to the beauty of each of the baskets, and so close were their merits, that another set of judges might easily have given the premium that was given to Mr. Massey to either of the other competitors without being accused of injustice or want of taste; and I think if the judges had made honorable mention of the other baskets it would have been no more than their due, and drawn the attention of the audience to the defeated baskets. I make these remarks, Messrs. Editors, because I wish the society to succeed, and wish all my floral friends, both professional and amateur, to be as well satisfied as they can be, either under defeat or otherwise.

Yours, truly, CHAS. H. SNOW.

The Thrift or Sea Pink.

This is an excellent hardy border plant, and, according to Vick, it also makes a good house plant. That gentleman says of it, in his



Floral Guide for 1877, that it bears the worst kind of usage. It is a lively green, and the plants form a globular mass of delicate leaves, as numberless as the hairs of our head. Its flowers are pretty, and making up well for bouquets. They are a rosy lilac color. The bot-

anic name of the plant is *Statice maritima*.

Rhododendrons.

Messrs. Editors American Farmer:

I offer a few words on the subject of Rhododendron culture. Your readers are very little, as a rule, to read that which can be retained only by those having already a general knowledge of the subject; hence we intend making our remarks as brief as possible. It is well understood that Rhododendrons to be *perfectly hardy*—say in the latitude of Baltimore—must not contain sufficient blood of *Arboreum* to give much color, and this means that the bright-flowering choicer Rhododendrons are *not* hardy here. On the other hand, the general greenhouse treatment given to soft-wooded stuff seals their death-warrant.

Perfectly hardy Rhododendrons, as *Catawbiense*, &c., require conditions for their well being exactly similar to the *Kalmia latifolia*, a plant with the habit of which most of your readers are familiar, and under just such conditions as that plant thrives so will the Rhododendron, no matter of what variety except so far as the degree of hardiness is a bar.

We usually find all such plants growing, in their wild state, on the northern slopes of hills, on the banks of ravines, &c., where the direct rays of the sun seldom shine upon them. And we would here remark that evergreens having leaves of a smooth leathery texture, as English ivy, will not endure the direct rays of a bright midwinter sun at a time when the foliage is in a frozen condition, and probably a keen dry wind blowing. With subjects, otherwise hardy, it is not the freezing that kills, but the sudden thawing. If any of your readers doubt the truth of this let them plant English ivy on the north side of a building and train part of it on to the southern front, and they will discover that a temperature at and somewhat below zero will not affect the ivy on the northern side, while on the southern the leaves will all turn brown.

This should be borne in mind by all amateurs in regard to the whole class of plants above spoken of, and for this reason it is obviously necessary to shade Rhododendrons from the winter's sun in exposed places, even though they be capable of enduring the cold. This shading is best accomplished by sticking brush or corn fodder lightly amongst and around them. We have sown very good varieties well colored and pretty hardy, and amongst the newer kinds for house culture are some very fragrant, the further consideration of which we leave till next month.

N. F. F.

Vegetable Garden.

June.—Asparagus should not be cut too late, else the roots are weakened for the next crop. Fall Cabbages may be set out and seed sown for the late crops. Plant corn every ten days for succession; keep melons, squashes and cucumbers well-worked, and have a keen eye for the bugs. Sow Cucumbers for pickles towards the end of the month. Egg plants will be destroyed by the potato-bugs if great care is not observed. They like abundant supplies of manure, especially in a liquid form. Lettuce, if still sown, ought to have a moist cool place. Keep Onions well worked. Break off the seed stalks of Rhubarb. Towards the end of the month sow Ruta-Bagas. The vines of Sweet Potatoes should not be allowed to root, as this diminishes the size of the tubers. Make trellises or other supports for Tomatoes. Keep down the weeds; attack them before they make any considerable growth, and they are easily vanquished. They and the insect enemies require constant watching and fighting.

Montgomery Co. (Md.) Grange, No. 7.

Messrs. Editors American Farmer :

The Montgomery Co. Grange, No. 7, met at Olney on the 26th of April, and was opened in due form—Worthy Master Jno. McDonald presiding. Thirty-five delegates from eight granges, and a large number of fourth degree members present.

Worthy State Master Jos. T. Moore, assisted by Bro. R. H. Lansdale, installed the following-named officers for the ensuing year:

Master, John McDonald; Overseer, George R. Rice; Lecturer, Rev. J. B. Avirett; Steward, Augustus Dorsey; Asst. Steward, John O. Clark; Chaplain, Wm. Rending; Treasurer, J. T. DeSellum; Secretary, F. A. Tschiffely; Gate Keeper, John Horner; Ceres, Mary J. McDonald; Pomona, M. C. Suter; Flora, Anna Willson; L. A. S., Anna L. Moore.

Barnesville Grange, No. 77, was represented, for the first time, in the county organization, by Bros. Geo. R. Hayes, B. F. White, L. J. Hayes, and Sisters Anne O. Belt and Alice Wade—and the name of that grange enrolled.

Reports from the subordinate granges in the county show new life and interest in the order.

A preamble and resolutions, strongly and warmly sustaining the State Agency, and the action of the State Executive Committee in relation thereto was very thoroughly discussed, and

with much enthusiasm unanimously adopted by a rising vote.

A vote of thanks was passed to the editors of the *Advocate*, who declined to receive pay for advertising, &c.

The thanks of the grange were, by a rising vote, tendered to the sisters of the Olney, No. 7, for the sumptuous entertainment and kind attention to their guests.

With an order for publication of the proceedings in the county papers and the *American Farmer*, the grange adjourned to meet at the Fair Grounds on the last Thursday of July next.

F. A. TSCHIFFELY, Secretary.

Rockville, Md., May 1, 1877.

Baltimore Co. (Md.) Grange, No. 13.

This grange will hold its regular quarterly session at Kingsville, on Tuesday, 12th instant, when a large gathering is expected,—the intention being to hold a public meeting in connection with that of the grange, and to have addresses by some prominent members of the order who have been invited to be present.

Appreciation of the Farmer.

A farmer of Charles County, Maryland, W. W. C., writes, in sending a club, that he is sorry it is not larger, but that it is only want of money which prevents more from subscribing, and adds

"Yet I am sure they would save money by taking such a paper as yours. I would not be without it for a great deal. It is an ever-welcome visitor to my family and all read it with much pleasure. I heartily wish you success."

A friend in Delaware, A. M. H., says:

"I have been a subscriber to your invaluable agricultural paper for a great many years. I have withdrawn from the active management of my farm; nevertheless, I cannot resist the luxury of welcoming the monthly visit of the *Farmers*. Enclosed you will find \$1 50 for its renewal."

A lady reader in Shenandoah Co., Virginia, writes us:

"I am trying to get up a little club for the *American Farmer*,—not with the view, however, of trying for premium, but simply because of the very great appreciation of my husband and self for your valuable paper. I think every farmer ought to take it and read it, as well as their wives. It not only makes better farmers, but better housekeepers also. For usefulness, I wouldn't exchange it for half the Fashion Magazines published."

A subscriber in Prince George's Co., Maryland, W. B., having missed his March No., wrote for it, and thus acknowledged its receipt:

"The duplicate sent me of this month's number was received, for which please accept my thanks. I have been taking the old pioneer ever since I have been farming, and its monthly arrival has been looked forward to with a great deal of pleasure. Like wine, I think, age improves it. This month's number is particularly interesting."

A subscriber in Anne Arundel, Maryland; N. B., writes:

"I never omit, when opportunity offers, to tell how highly I prize the *Farmer*, and to urge its claims upon Maryland farmers."

M. D. S., Lenoir, North Carolina, says:

"I can't do without the *Farmer*, as long as I can raise one dollar in the year. It is the best agricultural paper that I ever read, and I have many."

An esteemed correspondent in Norfolk, Virginia, C. B. P., in sending his own subscription and a new name, writes:

"If I could send you a new subscriber every week I would gladly do so, feeling that in doing you a service I would be enabling my friends to read the most charming and agreeable, in an agricultural view, of all the papers in this country devoted to the interest of the farmer."

One in Washington, D. C., R. H. E., says:

"I always look for my old companion (the *Farmer*) with pleasure, though, as you know, I have not been on a farm for years, but I am again getting the fever."

J. P. E., Little Chucky, Tennessee, writes:

"I shall try to send you more names than my own. Your publication speaks its own praise, and needs no commendation of mine to enhance its value."

T. W., Hampton, Virginia, writes us:

"You must not stop my paper, unless you hear from me, or of my death."

A subscriber in Rockingham Co., Virginia, writes us:

"I must return many thanks for getting out of debt by the aid of your valuable *Farmer*. I owe all my success to you and shall not forget you."

S. D. F., Wilcox Co., Georgia, remitting his subscription for the *American Farmer*, adds:

"I look upon it as one of the best of agricultural papers. When my time is out, notify me and I will pay up again. I can't well do without the paper."

A gentleman, now of Virginia, who has served his native State with distinguished honor in the councils of the nation, in forwarding his subscription, writes: "I read the *American Farmer* always with interest and pleasure. It is so eminently practical, sensible and judicious. It is, what it professes to be, an agricultural magazine, and devotes itself exclusively to the advancement of agriculture. Its contributors, for the most part, write tersely and to the point, and are evidently practical, and not what Mr. Ker Boyce used to call 'theatrical' (meaning theoretical) farmers. And the whole tone of your editorials is so uniformly fair and just—courteous and gentlemanly (is that too old-fashioned a word?)—that, take it all in all, I must say the old *American Farmer* is, *me judice*, one of the most agreeable and readable (besides useful) of the many periodicals I take."

Dr. Martin Scott's admirable, most-interesting and thoroughly-scientific papers, were alone worth ten times the subscription to the *Farmer*. I hope he will often contribute to your pages."

W. P. M.

From many kind notices from our brethren of the press, we take the two following:

Our neighbor, the *Presbyterian Weekly*, says:

"The February number of the *Farmer* contains about thirty-five pages of closely printed and useful reading matter. The articles are arranged with the greatest care. Nearly all branches of agriculture seem to be touched, some of them quite exhaustively. This magazine is an invaluable help to the farmer. The man who tills the land, by reading this can but be profited. The low price of subscription is nothing in comparison with the information obtained from it in exchange. We wish it the greatest prosperity."

And our cotemporary, the *Lancaster Farmer*, has the following: "The *American Farmer* for February, 1877, a royal octavo of 32 pages, published by Samuel Sands & Son, No. 9 North street, Baltimore, Md., at \$1.50 a year. This excellent agricultural journal was established in 1819,—hence it is now in its 58th year, ripe in years, ripe in agricultural literature, and ripe in general usefulness; and from the fact that the number before us has 21 pages of advertising matter in it, we may infer that its status as a circulating medium and a diffuser of useful knowledge is appreciated and fully recognized. We in Lancaster county shake hands with 'My Maryland' across 'Mason and Dixon's line,' and also, because personally those dear to us by the ties of blood are domiciled within its borders, it seems nearer than other States. This journal is exceedingly well conducted, able in its composition and compact in its 'make up,' containing more that is really useful, and condensed in a smaller space, than is given by any of our exchanges."

It may not be amiss, by the way, to call the attention of our readers to the fact, that the *American Farmer* contains a great deal more matter in the same space than most of its cotemporaries. Our type though clear is set solid, not leaded, and we waste very little space in head and display titles. We cater for the tastes of intelligent readers, and endeavor to give them something of value or interest in every line.

N. Y. State Agricultural Society.

The show of this society will this year be held at Rochester from the 17th to the 21st of September. It is usual to select the second week in the month, but on this occasion the later date was chosen on account of the meeting in Baltimore of the American Pomological Society. The president of the society for the current year is Mr. Patrick Barry, of the well known nursery firm of Ellwanger & Barry, and of whom the *Country Gentleman* says: "The chief office in the gift of the State Agricultural Society could not have been placed in hands better fitted to command the unanimous and sincere support of all its friends or to increase and consolidate its strength with the public generally."

The American Farmer.

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Transient Advertisements payable in advance—all others quarterly.
Advertisements should reach us by the 27th of the month, to secure insertion in the succeeding issue.

JUNE 1, 1877.

REMOVAL.

The publication office of the AMERICAN FARMER has been removed, on account of improvements in its former quarters, to No. 128 W. Baltimore street, over the Bulletin office, and nearly opposite the American and Sun buildings. We shall here be pleased always to see our friends,—new and old.

Subscription Bills.

To those of our friends who have already complied with our request to remit the amounts due on subscription account, we tender our thanks; and we beg to remind such as have not already done so that their attention at an early day will be considered a very great favor.

Our New Dress.

We present our old journal to its readers this month in an entire new dress. The typography does great credit to Mr. Jonathan W. Scott, the very able and gentlemanly superintendent of the Price-Current Printing House, to whose management we and our readers are indebted for the uniform neatness and correct make-up of the work,—rendering the American Farmer fully equal in its appearance to any similar journal in the country.

Cecil County Hay.

By the courtesy of Mr. Adam R. Magraw, we have a report from the Cecil Farmers' Club, and the detailed practice of some of the most successful farmers of that county in raising and saving prime timothy hay, information of which was requested by one of our Virginia subscribers. We regret that we received these papers too late to give them in this issue, but in our July number they will be read with great interest by those who know the reputation Cecil county hay bears in the market.

Frederick Co. (Md.) Farming—A Grange Meeting.

We recently had the gratification of paying a visit to one of the garden spots of Maryland, a region where agriculture seems to prosper,—its pursuit being attended by success and contentment. The lovely region between the Monocacy and the Catoctin mountain, and that across the river, known as the Glade Valley, form together a picture of rural loveliness such as exists in few localities in this or other States. Frederick county has long been famous, not only for the quantity but as well for the quality of her wheat product, and her fields appear to retain their original fertility, tilled by the hands of industrious and intelligent farmers, and her streams continue to drive the busy mills which fit the product of her teeming soils for market and consumption. Farming lands have apparently declined in value less here than in most sections, and the elevated standard of the farming practiced makes them sought for at prices which in any other portion of our State would seem exorbitant. As a notable instance we were shown a farm of considerable size, which but a week or two previous changed hands at \$175 per acre,—the improvements being apparently no better than those of contiguous properties.

The farm of our host of the occasion, in completeness of equipment, admirable direction, and profitable yields, is recognized as a type of those of this community. Geo. W. Miller settled on this farm about twenty-one years ago as a renter. It was just at the height of the popularity of Peruvian guano, and that wonder-working material had been liberally applied,—the crops of wheat annually ranging from 500 to 600 bushels. Like many beginners, his lack of means made it inconvenient for him to continue its application, and the wheat crops diminished to 300 or 400 bushels, above which figure it was impossible to make them go, though the most careful tillage

was given. Clover, too, failed to set, and the prospect was far from pleasant.

Persevering, but almost discouraged, Mr. Miller turned to *lime* as a resort,—that substance just then coming into favor in his neighborhood as an agricultural renovator. Applying it in moderate doses,—40 or 50 bushels to the acre,—the good effect was almost immediate; the same acreage began to produce increasing crops; and the increase has been so maintained that the yearly average is now 1,000 bushels. The practice now adopted by him is to lime about once in ten years, then applying only in the quantity indicated above; and, with wheat, to apply from 100 to 125 pounds to the acre of a good super-phosphate,—this being much lighter than the ordinary dressing. The result is seen in the growing crops of the farm. The wheat stands thick, even and well-colored; the clover surpassed in luxuriance any we have seen this season.

The improvements on the farm are all of the most substantial character. A spacious dwelling, replete with all conveniences, surrounded by a subterranean dairy, always cool in summer and warm in winter, and smoke, bake and ice-houses; an ample barn, under whose wide-spreading roof is found space for not only all the live-stock, but for the grain, the hay, the fodder, &c., none of which in this country is allowed to remain out of doors. A hydraulic ram sends a never-failing supply of pure water to the barn, stock-yard and gardens. The most improved machinery is used in the preparation, the planting and harvesting of the crops, and in every department of the farm-work there appear evidences of the most energetic and business-like management. And this farm is a typical illustration of those which occupy this fertile region, running up to the mountain's side.

The grange flourishes here. Lewistown Grange, No. 134, on the one side of the Monocacy, and Glade Valley, No. 150, on the other, occupy territory which furnishes congenial soil for its maintenance and growth. Both are large, thriving organizations, and contribute very considerably to animate, by their energetic movements, the whole agricultural community. Not only are the social features made prominent, but the advantages of co-operation are practically exemplified by the work the grange accomplishes. Lewistown Grange, and we believe Glade Valley also, shows the feasibility and the profits of combination by uniting to purchase at wholesale, for distribution among the membership, of household supplies, implements and fertilizers. The

first-named grange has erected a commodious and neat hall, and the other is making arrangements to do the same,—its W. Master, Hy. R. Harris, being amongst the most energetic, capable and successful farmers of his side the river.

On May 26th, these two granges united in holding a public meeting and pic-nic in a beautiful grove near Fountain Rock Station. The members of the two granges and the visitors from abroad met on one of the roads leading to the place of assembling and formed a procession of vehicles and horsemen a mile in length, headed by a band of music, playing inspiring airs. The meeting was organized by the selection as chairman of W. Lecturer Withers, of Glade Valley Grange, and addresses were made by C. Lyon Rogers, past-master of Garrison Forest Grange of Baltimore Co.; H. O. Devries, master of Howard Co. Grange and Grange State agent; Wm. B. Sands, lecturer of Glencoe Grange, Baltimore Co., and editor of the *American Farmer*, and others. The proceedings were broken by intervals for dinner, music, &c., and the whole affair though hurriedly gotten up seemed to be much enjoyed by those present, who are estimated to have been upwards of one thousand persons.

Farmers' Club of Sandy Spring, Md.

This association—the oldest of farmers in Maryland, having been formed in 1843 and which has never omitted a meeting—held its May meeting on the 5th, at the house of our esteemed friend, Wm. John Thomas, who had kindly invited us to be present. The membership was complete, save one absentee kept away by indisposition, and this full attendance is the general custom with this body, the average on hand at its sessions being from 14 to 15 out of the entire sixteen.

Chas. G. Porter was made foreman of the day, and after the minutes of the preceding meeting and of that last held at the same place were read by the secretary, James S. Hallowell, a tour of inspection was made of the fields and buildings, which were found in good order, the crops promising, the stock growing and thrifty.

Returning to the house, the usual programme was entered upon. This differs somewhat from that adopted in other clubs. There is no subject agreed upon in advance, but each member in turn is invited to ask questions on any topic connected with farm operations, management of stock, culture of crops, &c., and an answer or expression of opinion solicited from all the others, the secretary keeping a minute of the responses.

On this occasion, amongst others the following queries were propounded:

Which is the hardest on land: mowing first and pasturing after harvest, or all pasturing? Five thought all grazing, and sixteen mowing first and grazing afterwards.

A brood-mare to foal this spring is unthrifty and troubled with worms. What should be done for her? Answer: give her a pint of fish oil or a strong decoction of tansy.

Inquiry developed the fact that the club was unanimously opposed to the use of the "rubber" for covering corn; the rubber being a slab of timber with the edges rounded, to which a pair of horses are attached.

Should a five-acre lot, 15 years in sod, be put in corn or potatoes? In corn.

What mowing machine shall I buy? This inquiry elicited a very favorable expression in favor of Whiteley's new Champion or "Hay-maker," which has been used in the vicinity to great satisfaction.

On a dairy farm, where butter is intended to be the principal product, and where the tenant furnishes the working stock and the labor, and the landlord the cows, brood sows, &c., who should furnish the fertilizers, and what proportion of the profits should go to each. All agreed that the landlord should furnish the fertilizers. Some thought he should get two-thirds of the profits, but the majority concluded that the profits should be equally divided.

A number of other questions were discussed, of which we have no notes, some being of more local interest.

The proceedings were interrupted by an interval for the discussion of supper prepared by the ladies of the household, to which most ample justice was done, and the club adjourned not long after dusk, as became these fathers in the Israel of agriculture, who are not expected to be out late o' nights.

PERUVIAN GUANO.—It will be seen by the advertisement of Mr. Barrill, in this month's issue, that this gentleman has made arrangements to furnish Peruvian Guano from the warehouse in Baltimore. Many of our readers will remember Mr. Barrill as the Peruvian Government's agent for the sale of its product in this city during the early stages of the great demand therefor; and we feel assured that all who may wish to deal with him will find him accommodating and most reliable in all his business engagements.

SPECIAL ATTENTION is called by Messrs. J. J. Turner & Co. to their Excelsior and Ammoniated Phosphate, which have stood the test of a long experience in producing fine crops of tobacco.

JERSEY CATTLE.—We refer enquirers for this valuable breed of cattle to the advertisement of Mr. Perot, who has determined to dispose of some of his stock. None better can probably be found in the country.

REMOVALS.—Messrs. F. C. Grange & Co., it will be noticed, have changed their quarters to No. 141 W. Pratt street.

Mr. J. C. Durborow will hereafter be found at No. 35 Light street, where he will keep a general assortment of agricultural implements, and some specialties to which attention is directed in his advertisement.

MR. A. G. MOTT, at his long-established stand, No. 41 Ensor street, besides his usual assortment of Farm Tools and Machines, offers some second-hand Mowers and Reapers, which he has put in thorough repair, and some of which can be had at great bargains.

The Breadstuffs Market.

The reaction which in our last we indicated was likely to take place in prices of grain and flour, soon occurred, (early in last month,) and, though there has been some variations, the decline has not been recovered, nor does it seem likely to be. A glance at our quotations will show the difference in the markets of the date of this issue and for a month previous. Wheat is short of supply, and it seems to us likely to go higher; but the speculative element makes all calculations of the grain markets uncertain and risky.

Valuable Agricultural Machinery.

We refer our readers to the advertisement of Messrs. Geo. Page & Co. on another page. The saw mills and engines for propelling them are well known throughout the country, especially at the south and southwest, where numbers have been in use for years. Their other valuable machines have almost a world-wide reputation, and they have just added to the number the *Vibrating Thresher*, for which they have accepted the agency, after being satisfied by an examination of the machinery at the Centennial that it is the best invention for the purpose of rapidly and cleanly getting out the wheat crop. The judgment of no one than the machinist at the head of this firm, is more reliable in such matters.

Securing the Harvest.

On all sides whither our travels have taken us we find the most gratifying promise for the wheat crop; and, unless unforeseen casualties occur, it seems probable that generally there will be more than an average yield. In most quarters, too, the hay crop may be considered as made, though in some districts a single top-rain may be needed to insure its safety.

As a consequence of this fortunate condition of affairs, there is more than usual animation in the preparations making for the harvest,—in-

cluding an active inquiry for mowers and reapers, for which, in some quarters, as we are informed, there is a heavier demand than ever before known.

Messrs. L. H. Lee & Bro., Nos. 54 and 56 Light street, the managers in this section of the Champion machines, (a notice of the immense shipments of which was referred to in our last,) inform us their orders were never larger than during the present season, and that it is not improbable, from the tax upon the capacity of their works, that farmers neglecting to supply themselves at an early day may find that the supply of certain styles of their machines is exhausted—so great has been the demand for them. This is an evidence of the popular favor with which the Champion is regarded,—a favor which, as we are sure from our own experience in its use, and the opportunities we have had of witnessing its daily operations through several harvests, is justly deserved, by the strength and durability of its materials and the admirable adaptability of its parts and movements to the ends to be attained.

Nor are the manufacturers of this machine content with the success it has already achieved, but on the alert to add new improvements, they have now, as we have lately seen announced, secured the control of a most remarkable mechanical device for driving the knife of mowers and reapers, which has heretofore been used on the Haymaker—elsewhere referred to in the proceedings of the Sandy Spring Farmers' Club—and which will before long be applied to all the Champion machines.

When we reflect upon the tax on the time, the patience and the purse of the farmer, which formerly attended the gathering of the harvest, who can refrain from giving the full acknowledgment of praise to the mechanical genius which has so reduced this tax by the perfection of these wonderful labor and time-saving machines?

The National Association of Fertilizer Manufacturers.

This association met at Raine's Hall on the 12th ultimo,—John S. Reese, the President, in the chair, and R. W. L. Rasin, Secretary. A large number of manufacturing firms were represented.

The committee on the inspection laws reported that they had examined the laws of Georgia governing the inspection of fertilizers, and had found them satisfactory.

Mr. Ober called the attention of the meeting to the fact that the Baltimore firms engaged in the manufacture and sale of fertilizers had lately held a meeting to consider the law of North Carolina on the inspection of fertilizers. It imposes a tax

of \$500 on each brand of guano sold in the State. A committee was appointed, which investigated the matter, and decided to test the constitutionality of the law in the courts of North Carolina. The matter was now in the hands of lawyers.

A resolution offered by Mr. Chisholm, of South Carolina, was adopted, to the effect that the action of the manufacturers of fertilizers in contesting the late very burdensome, and, as they believe, unconstitutional, laws of North Carolina, be approved by this association.

It was decided that after July 1st the fertilizing business shall be regulated on a regular platform of sales and purchases, as other commodities. The following were elected officers of the Association: President—Gustavus Ober, Baltimore. Vice Presidents—John M. Gliddin, of Boston; E. C. Williams, Charleston. Treasurer and Secretary—R. W. L. Rasin, Baltimore. Executive Committee—George W. Grafflin, Baltimore; E. T. Walton, Wilmington, Del.; and W. C. Bee, Charleston, S. C.

Mr. John S. Reese, the retiring President, spoke of the benefits derived by the manufacturers from this Association, and stated that he felt great pride in having been its first President. Mr. Ober then took his seat and delivered a brief address.

Resolutions were adopted regretting the death of L. Sangston, late Vice-President of the Association.

The meeting adjourned to meet in Baltimore the first Thursday of next October.

The object of the Association is to induce a free interchange of opinion on all subjects of general interest to the trade.

Lands in Talbot County, Maryland.

The following from a farmer, only a few years settled on the Eastern Shore of our State, speaks well for the productiveness of that section:

“ ——— FARM
Near Easton, May 19, 1877.

Messrs. Editors American Farmer:

I suppose the best apology I can make for excuse I have none, for not sending you your money when it was due, is to enclose herein, with my subscription for the past, that of the coming year also. Certainly your subscribers get full value for their money. I wish you could pay me a visit so I could show you how “kindly” is our soil, and how soon it answers to anything like fair treatment, and get you to say a good word for our section. I don't think even your “crack” land can show a better field of hay than my forty acres of timothy and clover—yet three years ago that field was almost barren, having, so the tenant told me, been six consecutive times in grain. Yet the first year it gave me 600 bus. of wheat, and last year nearly 60 tons of hay; this year it will certainly equal last, while the total expense on all the crops for fertilizer and plaster has been \$6 per acre. About 7 acres was manured and 5 pecks of Fultz wheat and 1 gallon each timothy and clover per acre was all the seed used. Can't you come over? ———”

Baltimore Markets—May 31.

Quotations given below are Wholesale Prices:

Breadstuffs.—Flour—Steady and somewhat firmer than for several days. Receipts are light. The market closes steady, with quotations as follows: Howard Street Super \$3.75@6.50; do. Extra \$7@7.50; do. Family \$8@8.75; do. Family, fancy, \$9.25@9.75; Western Super \$5.75@6.50; do. Extra \$7@7.50; do. Family \$8@8.75; do. Family, fancy, \$9.25@9.75; City Mills Super \$5.75@6.50; do. standard Extra \$7@7.50; do. medium Extra \$8@8.25; do. Rio brands Extra \$9@9.25; Spring Wheat Flour \$7.50@8.50; do. do. patent \$9@10; fancy brands \$10.50; Fine \$5@5.25; Rye Flour \$5@5.50; Corn Meal, City Mills v. brl., \$3.50.

Wheat.—Receipts light, with market strong and tendency of prices upward. We quote: Southern Red \$1.75@1.85; Pennsylvania Red \$1.85.

Corn.—Southern was dull all round, and for white prices were 1 cent v. bns. lower. In Western there was a moderately active business, the sales to-day aggregating about 312,000 bns., but the market was heavy throughout. We quote as follows: Southern White 60 cts.; do. Yellow 58@59; Western steamer, spot 55; do. mixed do. 53; do. do., June delivery, 58; do. do. July do. 60; do. do. August do. 62½.

Oats.—Are dull. We quote: Western mixed 44@46 cts.; do. bright 47@48; Southern, fair to good 43@44; do. prime 45@46.

Rye.—We quote good to prime at 75@80 cts.

Mill Feed.—City is firm, and we quote Middlings at \$19 v. ton, and Brownstuff held at the same price. No Western arriving.

Hay and Straw.—Hay is dull and lower, but Straw is steady and unchanged. We quote as follows, viz: Hay—Cecil County \$17@19; Prime Pennsylvania and Maryland \$15@16; Western \$14@15; Mixed \$12@14; Clover \$11. Straw—Wheat \$9@10; Oats \$9@10, and Rye \$15@16.

Cotton.—Nothing doing. The market is nominally steady, with the offerance light. We quote: Middling 11@11½ cts.; Low Middling 10½@10¾; Strict Good Ordinary 10¼@10½, and Good Ordinary 10.

Live Stock.—Beef Cattle—Sales at the market yesterday were fairly active, with sales as follows: Best on sale 6¼@6½ cts.; generally rated first-class 5¼@6¼ cts.; medium or good fair quality 5@5¼ cts.; ordinary thin steers, oxen and cows, 4@5 cts. Milch Cows are dull at \$25@35 for common to fair, and \$45 a head for best.

Swine.—Light supply and market bare, with prices steady, ranging from 6¼ to 7¼ cts. net, the former for tall ends.

Sheep.—Supply short, and prices firm, ranging from 4 to 5¼ cts. for Sheep, and 5@6¼ cts. for lambs.

Provisions.—Dull. Prices quoted as follows: Bulk Shoulders, packed, 6 cts.; do. C. R. Sides, packed, 8¼ cts.; do. L. C. Sides, packed, 8 cts.; Bacon Shoulders 6¼ cts.; do. C. R. Sides, 9 cts.; do. Hams, sugar-cured, 12@13 cts.; Lard, Refined, tierces, 10¼@10½ cts.; Mess Pork, v. brl., \$15.50@15.75. *Butter.*—Fine grades are getting scarce. We quote New York, prime to choice, 22@25 cts.; Western 17@18 cts. *Cheese.*—Eastern, choice, new, 22@25 cts.; Western do. 12¼@13¼ cts. *Eggs.*—15 cts. *Poultry.*—Spring Chickens \$3@3½; old fowls \$3@3.50 v. doz.

Tobacco.—Arrivals, both of Maryland and Ohio leaf, continue free, but the market remains quiet. The better grades of Maryland, of which there are some occasional lots offering, are picked up by shippers at steady prices, but the larger part of the receipts are composed of inferior stock, for which there are at present no buyers. In Ohio there is little doing. No activity is looked for in either Maryland or Ohio, until after the awarding of the French contract. We quote as follows: Maryland, inferior and frosted, \$2.50@3.50; do. round common \$1@1.50; do. good do. \$2@2.50; do. middling \$1.50@2.50; do. good to fine red \$3@3.50; do. fancy \$1.50@2.50; do. upper country \$4@5; do. ground leaves, new, \$3@3.50.

Wool.—Tub-washed 25@30 cts.; unwashed 25@30 cts.; fleece-washed 28@30 cts.

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My breeding stock are a sow and boar, bred by Mr. Russell Swanwick, England, and imported by Mr. T. S. Cooper, Lehigh Co., Pa., in 1876. The sow, **Sallie Wanderer II.**, out of Othello's Sallie, and sired by Wanderer II. The boar **Young Liverpool III.**, out of Sallie VIII, and sired by Young Liverpool, and he by Othello—g. dam Sallie VI (L. L.). Also the Young boar **Hesperian Major II.**, bred by B. St. John Achers, Esq., Eng., who exported him, with others, last summer to Philadelphia to be exhibited at the Centennial exhibition of live stock; he and others of this exportation were bought, by Messrs. Benson & Burpee, Philadelphia. They assured me that this Pig was the best one of the litter—dam Snowdrop—sire Hesperian Major; and also two 3-year-old sows, and one 2-year-old boar. The sows bred by Mr. P. B. Longnecker, Pa., out of imported stock of good pedigree. The boar **Black Prince**, bred by the late Henry Carroll, Esq., Baltimore Co., Md., out of stock bred by Mr. Coffin, of Prince George's Co., Md., and stock bred by Mr. Dance, Baltimore Co., Md.,—part of Mr. Dance's stock was also bred by Mr. Coffin. This boar is said to be of good stock. He is large, handsome and well marked, and his get of Pigs are very large, handsome and well marked. Mr. T. S. Cooper, in his Catalogue for 1876, says: "Othello's Sallie is one of the best Sallie sows living, and as a breeder has but a few equals. She stands amongst the first in my herd." That "Othello took first prize at Gloucester, the only time he has ever been shown." That "his pigs have, for years, won any number of prizes at the leading shows in England, and it is a pity that such a pig should die." He also says the g. dam of my boar **Young Liverpool III.**, "Sallie VI. (L. L.) is well-known amongst the English breeders; has won more prizes and bred more prize animals than any other sow in the kingdom." Messrs. Benson and Burpee, in their Descriptive Catalogue, says: "Besides the Collier, we purchased two very fine boar pigs, and two sow pigs—all imported and out of Snowdrop—by Hesperian Major." These Pigs are perfect beauties, and promise to make show boys of rare merit and very uniform excellence. Their sire, Hesperian Major, is one of the finest boars in England, and was bred by Heber Humphrey, Esq." They also mention seventeen premiums and reserve numbers that Snowdrop, her sister and brother won in England last year up to July, 1876.

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1877

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
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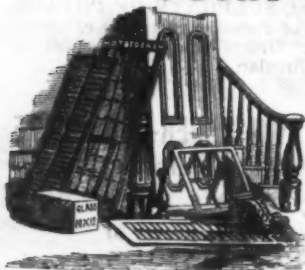
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